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A Chemoproteomics Approach Towards the Discovery of Novel Anti-Cancer Covalent
Ligands and Targets

By

Allison Marie Roberts

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Chemistry

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Daniel K. Nomura, Chair

Professor Christopher Chang

Professor Evan Miller

Professor James Olzmann

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ABSTRACT

A Chemoproteomics Approach Towards the Discovery of Novel Anti-Cancer Covalent Ligands and Targets

by

Allison Marie Roberts

Doctor of Philosophy in Chemistry

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Professor Daniel K. Nomura, Chair

While many disease-modifying protein targets have been discovered, most of these targets have remained untranslated as they are considered to be difficult to target with small-molecule drugs. In fact, most of the proteome is devoid of pharmacological tools, greatly hindering both basic and translational research efforts. Studies have demonstrated that the development of high-quality chemical tools for proteins of interest catalyze research into the function and therapeutic exploitation of those proteins, thus correlating the development of chemical tools for specific proteins with their associated research activity.¹ In fact, only 2% of all predicted human gene products are currently targeted with small-molecule drugs and only 10-15% of all human genes are thought to be 'druggable,' with only a 25% overlap between druggable protein targets and known disease-modifying targets.² Therefore, it is crucial to develop novel approaches and pharmacological tools that garner the entire proteome if we hope to accelerate drug discovery efforts towards curing complex diseases.

The use of reactivity-based chemoproteomic probes and isoTOP-ABPP platforms has afforded the discovery of numerous sites within proteins that may represent a variety of functions such as catalytic activity, protein-protein interactions, and allosteric regulation.³⁻⁶ In this dissertation, I present evidence of how chemical genetics and chemoproteomics approaches can be coupled to not only identify novel anti-cancer protein targets, but also covalent small molecule compounds that can inhibit or impair said targets. I also demonstrate how chemoproteomics as a whole allows for the target identification of almost any small molecule of interest, therefore accelerating drug discovery platforms by identifying lead targets and the general promiscuity of a lead ligand. Overall, I provide work that details how we have identified novel sites within protein targets that can be drugged, as well as novel protein targets themselves. This work demonstrates how chemoproteomic platforms, when applied to multiple drug discovery platforms, allows for the rapid identification of novel anti-cancer covalent compounds, and their targets, ultimately providing an approach that can have a large impact on the fight to cure cancer.

Dedication

Ever tried. Ever failed. No matter. Try again. Fail again. Fail better.
Samuel Beckett, "Westward Ho", 1983

I have put all my energy, drive, and perseverance into achieving this Ph.D. degree. However, there are numerous people who supported me throughout this process and made it the success that it was. I dedicate this work to all of you.

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And finally, to the Nomura lab and my chemical biology cohort, thank you for being my friends, peers, and my support system. Graduate school is difficult to say the very least, especially being away from family, but you all have become my family and this journey would not have been the same without you.

To those mentioned here by name, and all those who listened to me and supported me throughout these last few years, I cannot say enough thank you’s. While you may never read this cover to cover, I hope you feel just as proud of it as I do.

With much appreciation and love,

Allison M. Roberts

Dr. Allison M. Roberts

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LIST OF INITIALISMS

ABPP	activity-based protein profiling
ACAT1	acetyl-CoA acetyltransferase
ASC1	activating signal cointegrator 1
ATCC	American Type Culture Collection
ATP	adenosine triphosphate
BRD4	bromodomain 4
BTK	tyrosine-protein kinase BTK
CATSPERD	cation channel sperm-associated protein subunit delta
CRBN	cereblon
CRISPR	clustered regularly interspaced short palindromic repeats
CuAAC	copper-catalyzed azide-alkyne cycloaddition
DMEM	dulbecco's Modified Eagle Medium
DMSO	dimethylsulfoxide
DTT	dithiothreitol
ER	endoplasmic reticulum
FBS	fetal bovine serum
GSTP1	glutathione S-transferase pi 1
HPDE	human pancreatic ductal epithelial
IA	iodoacetamide
IAyne	iodoacetamide alkyne
isoTOP-ABPP	isotopic Tandem Orthogonal Proteolysis-Enabled activity based protein profiling
KO	knock out
L15	leibovitz's 15
MEF	mouse embryonic fibroblasts
MudPIT	multidimensional protein identification technology
PBS	phosphate-buffered saline
POI	protein of interest
PROTAC	proteolysis targeting chimera
qPCR	quantitative polymerase chain reaction

RTN4	reticulon 4
shRNA	short-hairpin RNA
siRNA	small-interfering RNA
SLC25A3	phosphate carrier protein
TAP2	antigen peptide transporter 2
TEV	tobacco-etch virus
UBA5	ubiquitin-like modifier-activating enzyme 5
UFM1	ubiquitin-fold modifier 1
UQCRC1	cytochrome b-c1 complex subunit 1
VHL	von Hippel-Lindau

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Adapted with permission from Current Opinion Biotechnology, doi: 10.1016/j.copbio.2016.08.003. Allison M. Roberts, Carl C. Ward, and Daniel K. Nomura, “Activity-Based Protein Profiling for Mapping and Pharmacologically Interrogating Proteome-Wide Ligandable Hotspots.” Copyright © 2017 Elsevier (Abstract)

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*these authors contributed equally

CHAPTER ONE: Utilizing Chemoproteomic Technologies to Discover Novel Anti-Cancer Covalent Ligands and Drivers in Pancreatic Cancer

Introduction

In the United States, it is estimated that over 53,000 people will be diagnosed with pancreatic cancer and over 40,000 patients will die from pancreatic cancer with a dismal overall 5-year survival rate of 7.7%.⁷ Current therapeutic strategies for pancreatic cancer include resection and nonspecific therapies such as radiation or chemotherapy.⁸ Unfortunately, these treatment strategies are insufficient for current pancreatic cancer therapy. Better strategies are needed to discover both novel anticancer agents and targets for combatting pancreatic cancer.

Despite the identification of many novel protein targets that control cancer, a major bottleneck in drug discovery efforts has been that most of these proteins are “undruggable” or difficult to target with small molecules.² Developing technologies that enable the coupled discovery of new cancer targets and small-molecule therapies would provide a promising platform to discover next-generation cures for cancer. Recently, chemoproteomic technologies have arisen to address this challenge, including activity-based protein profiling (ABPP), which uses activity or reactivity-based probes to map proteome-wide reactive, functional, and druggable hotspots directly in complex proteomes. Through competing small molecules against the binding of these chemical probes, this competitive ABPP platform provides a facile strategy for developing selective modulators against new cancer targets.⁹⁻¹¹ Another approach that has been successful at identifying new anticancer agents in a high throughput manner is chemical genetics, which involves small-molecule screening for anticancer phenotypes. However, a major challenge of chemical genetics is identifying the target and mechanism of action of lead compounds.^{12,13} To address this challenge, we have coupled the screening of a fragment-based cysteine-reactive ligand library with competitive isotopic tandem orthogonal proteolysis-enabled ABPP (isoTOP-ABPP) platforms to both identify covalent ligands that impair pancreatic cancer pathogenicity as well as discover novel druggable hotspots that can be targeted for potential pancreatic cancer therapy (Figure 1-1).

To demonstrate the impact of this approach, we screened a fragment-based covalent ligand library consisting of 85 structurally diverse cysteine-reactive acrylamides and chloroacetamides to identify compounds that impaired pancreatic cancer cell survival or proliferation (Figure 1-1 B, Appendices 1-1 and 1-2). Recent studies by Backus et al. have shown that the reactivity of these cysteine-reactive covalent ligands can be made to confer substantial selectivity against specific ligandable hotspots in complex proteomes.¹¹ These small molecular weight fragment-based covalent ligands enable sampling of more macromolecular protein space and druggable hotspots.¹⁴ Most importantly, this approach can be coupled with isoTOP-ABPP platforms for rapid target discovery through the competition of covalent ligand hits against reactivity-based probes without the need for additional derivatization of the compounds.

Chemical genetics screen of cysteine-reactive covalent ligands yields three compounds that significantly impair pancreatic cancer cell survival

Through this screening effort, we identified 27 hits that impaired PaCa2 pancreatic cancer cell survival or proliferation by greater than 70% (Figure 1-1 B; Appendix 1-2). To rule out compounds that may nonspecifically cause toxicity, we also counterscreened these hits against immortal human pancreatic ductal epithelial (HPDE) cells to eliminate compounds that impaired survival or proliferation by >50% in HPDE cells (Figure 1-1 C, Appendix 1-2). Through these efforts, we identified three main chloroacetamide hits DKM 2-67, DKM 2-83, and DKM 2-93 (Figure 1-1 D) and chose to pursue DKM 2-93 for target identification using isoTOP-ABPP approaches, as it was the most chemically complex.

We showed that DKM 2-93 not only impairs pancreatic cancer cell survival in PaCa2, but also in another pancreatic ductal adenocarcinoma line, Panc1, with 50% effective concentration values of 90 and 30 μ M, respectively (Figure 1-2 A). Surprisingly, even though the structure of DKM 2-93 is quite simple, we showed that DKM 2-93 daily treatment significantly impairs tumor growth of PaCa2 cells in vivo in tumor xenograft studies in immune-deficient mice without causing any weight loss or overt toxicity (Figure 1-2 B; Appendix 1-5).

Chemoproteomic analysis of DKM 2-93

We then utilized competitive isoTOP-ABPP platforms to identify the specific cysteine residue(s) targeted by DKM 2-93, which presumably result in the impairment of pancreatic cancer pathogenicity (Figure 1-2 C; Appendix 1-3). We competed DKM 2-93 directly against labeling of PaCa2 pancreatic cancer cell proteomes with the broad cysteine-reactive iodoacetamide-alkyne (IAyne) probe for subsequent isoTOP-ABPP quantitative proteomic analysis. We then only interpreted ratios from probe-modified peptides that showed up across at least two out of three biological replicates. This resulted in the analysis of 335 probe-modified peptides of which most of these peptides (313 peptides) showed ratios less than 2, showing that DKM 2-93 is not entirely promiscuous in its reactivity. Among these probe-modified peptides, only one target showed a light to heavy probe-modified peptide ratio >4. This top hit, with an isotopic ratio of 4.2, was cysteine 250 (C250) on ubiquitin-like modifier activating enzyme 5 (UBA5) (Figure 1-2 C; Appendix 1-3). C250 is the catalytic cysteine on UBA5, suggesting that DKM 2-93 is a direct inhibitor of UBA5.^{15,16}

We also performed isoTOP-ABPP profiling to quantitatively map proteome-wide cysteine reactivity in pooled primary human pancreatic tumors to determine the relative reactivity of UBA5 C250 within the proteome. To map the relative reactivity of each cysteine in primary pancreatic tumors, we labeled pooled pancreatic tumor proteomes with either a high (100 μ M, heavy) or low (10 μ M, light) concentration of IAyne and assessed the quantitative heavy to light ratios of probe-labeled peptides. Previous studies mapping cysteine reactivity in this manner have shown that a ratio of < 3 would

indicate a hyper-reactive and likely functional cysteine, whereas a ratio ~10 would not be considered particularly reactive.⁴ We indeed showed that UBA5 protein is present in primary human pancreatic tumors and that C250 of UBA5 shows a heavy (100 μ M) to light (10 μ M) ratio of 4.7, indicating that this cysteine is just moderately hyper-reactive, despite C250 representing the catalytic cysteine of this enzyme (Figure 1-2 F). This lack of hyper-reactivity may be due to the exquisite substrate specificity of UBA5 for a large protein substrate such as UFM1, where the reactivity of C250 on UBA5 may be tempered to prevent promiscuous substrate recognition. Nonetheless, we show that UBA5 is present in primary human pancreatic tumors and that the catalytic C250 is accessible in these tumors.

UBA5 importance to pancreatic cancer pathogenicity

UBA5 is a protein involved in activating a ubiquitin-like protein UFM1 to UFMylate proteins.^{15,17} While UBA5 and UFMylation have been shown to be important in breast cancer through UFM1 conjugation of a nuclear receptor coactivator ASC1 that modulates estrogen receptor signaling,¹⁸ UBA5 has not been previously attributed to pancreatic cancer pathogenicity, thus making it a potentially novel pancreatic cancer therapeutic target. We validated UBA5 as a target of DKM 2-93 by competing DKM 2-93 against IAYne labeling of pure human UBA5 using gel-based ABPP methods (Figure 1-2 D). To further show the specificity of this interaction, we demonstrated that another cysteine-reactive fragment, TRH 1-32, did not impair PaCa2 survival and does not inhibit IAYne labeling of UBA5 (Figure 1-2 D). TRH 1-32 is an acrylamide as opposed to a chloroacetamide, but does maintain one methoxy functional group. The lack of reactivity with UBA5 indicates some level of selectivity of DKM 2-93 for UBA5. Consistent with our data that DKM 2-93 covalently modifies the catalytic cysteine of UBA5, we also showed that UBA5 activity, represented by activation and conjugation of UFM1 on C250 on UBA5 (UFM1-UBA5 complex), is inhibited by DKM 2-93 with an 50% inhibitory concentration of 430 μ M (Figure 1-2 E). This value is within 5-fold of the EC50 value of this compound in PaCa2 cells.

To further confirm that UBA5 inactivation impairs pancreatic cancer pathogenicity, we also knocked down the expression of UBA5 in PaCa2 cells (Figure 1-3 A). We show that short interfering RNA (siRNA)-mediated transient or short hairpin RNA (shRNA)-mediated stable genetic knockdown of UBA5 in PaCa2 cells phenocopies DKM 2-93 in impairing PaCa2 serum-free cell survival and in vivo tumor xenograft growth (Figure 1-3 B,C).

Conclusions

Here, we have coupled chemical genetic screening of a covalent ligand library with isoTOP-ABPP platforms to discover a cysteine-reactive fragment DKM 2-93 that inhibits UBA5 to impair pancreatic cancer pathogenicity. A previous study reported an organometallic UBA5 inhibitor that acts through noncompetitive mechanisms;¹⁹ DKM 2-

93 represents another potential inhibitor scaffold that acts through covalent modification of the catalytic cysteine that can potentially be used to generate more potent and selective UBA5 inhibitors. It will be of future interest to determine the UFMylation protein substrates of UBA5 that are responsible for the effects observed here, toward better understanding the mechanism through which UBA5 controls pancreatic cancer pathogenicity. We also cannot rule out other potential targets of DKM 2-93 which may contribute to its anticancer activity. While C250 of UBA5 was the only target of DKM 2-93 showing a light to heavy peptide ratio of >4 , there were four additional targets that showed ratios >3 , UQCRC1, SLC25A3, a TAP2, and CATSPERD, which may also play roles in DKM 2-93 action. Furthermore, DKM 2-93 may act with additional targets outside of those profiled by the iodoacetamide-alkyne cysteine reactive probe used in this study. Thus, it may be of future interest to develop a biorthogonal probe based on the DKM 2-93 structure. Taken more broadly, these results underscore the utility of combining covalent ligand screening with chemoproteomic platforms to rapidly mine the proteome for druggable hotspots that can be exploited for potential cancer therapy.

Materials and Methods

Materials

IAyne was obtained from CHESS GmbH. HIS₆-UBA5 and HIS₆-UFM1 were purchased from Boston Biochem. shRNA constructs were obtained from Sigma-Aldrich. Primers were obtained from Elim Pharmaceuticals. The composition of the cysteine-reactive library is in Appendix 1-1. The synthesis and characterization of this library is reported in Appendix 2-1.

Cell Culture

MIA-PaCa2 and Panc1 cells were purchased from ATCC and were grown in DMEM with 10% FBS. HPDE cells were obtained from Rushika Perera's laboratory at UCSF and grown in Life Technologies Keratinocyte SFM combo (cat no: 17005042). The generation of these cells have been previously described.²⁰

Cellular Survival and Proliferation Assays

Cells were plated the evening before the experiment and allowed to adhere overnight. For both survival and proliferation assays, cells were plated in regular media. Before dosing, the medium was aspirated from all wells and replaced with the appropriate medium and drug dosage. For the chemical genetics screen, cells were treated with either DMSO or the cysteine-reactive fragment for 48 h, and cell viability was assessed by Hoescht stain using our previously described methods.²¹

Tumor Xenografts

C.B17 SCID male mice (6–8 weeks old) were injected subcutaneously into the flank with 2 000 000 cells as previously described.²¹ After 3 days, the mice were exposed by intraperitoneal (ip) injection with either vehicle (18:1:1 PBS/ethanol/ PEG40) or 50 mg/kg DKM 2-93 once per day, each day for the duration of the study. Tumors were measured every 3 days by caliper measurements. Animal experiments were conducted in accordance with the guidelines of the Institutional Animal Care and Use Committee of the University of California, Berkeley.

Proteomics Analysis

isoTOP-ABPP analyses were performed as previously described.^{4,11} PaCa2 cell lysates were preincubated with DMSO vehicle or DKM 2-93 (50 μ M) for 30 min at 37°C and then labeled with IAyne (100 μ M) for 1 h at RT. They were subsequently treated with isotopically light (control) or heavy (treated) TEV-biotin 100 μ M, and click chemistry was performed as previously described.^{4,11} Proteins were precipitated and pelleted by centrifugation. Proteins were washed 3 times with cold methanol, then denatured and resolubilized by heating in 1.2% SDS/PBS to 90°C for 5 min. Insoluble components

were precipitated by centrifugation at 6500g, and soluble proteome was diluted in 5 mL of PBS, for a final concentration of 0.2% SDS. Labeled proteins were bound to avidin-agarose beads (170 μ L beads from Thermo Pierce) while rotating overnight at 4°C. Bead-linked proteins were then washed three times each in PBS and water, resuspended in 6 M urea/PBS, and reduced in dithiothreitol (1 mM), alkylated with iodoacetamide (18 mM), then washed and resuspended in 2 M urea/PBS with 1 mM calcium chloride and trypsinized overnight (0.5 μ g/ μ L sequencing grade trypsin from Promega). Tryptic peptides were discarded, and beads were washed three times each in PBS and water, then washed with TEV buffer containing DTT (1 μ M). TEV-biotin tag was digested overnight in TEV buffer containing DTT (1 μ M) and Ac-TEV protease (5 μ L) at 29°C. Peptides were diluted in water and acidified with final concentration of 5% formic acid.

Peptides from all proteomic experiments were pressure-loaded onto a 250 μ m inner diameter fused silica capillary tubing packed with 4 cm of Aqua C18 reverse-phase resin (Phenomenex # 04A-4299), which was previously equilibrated. The peptides loaded onto this capillary tubing were then attached using a MicroTee PEEK 360 μ m fitting (Thermo Fisher Scientific #p-888) to a 13 cm laser pulled column packed with 10 cm Aqua C18 reverse-phase resin and 3 cm of strong- cation exchange resin for isoTOP-ABPP studies. Samples were analyzed using a Q Exactive Plus mass spectrometer (Thermo Fisher Scientific) using a Multidimensional Protein Identification Technology (MudPIT) program as previously described.^{4,11} Data were collected in data-dependent acquisition mode with dynamic exclusion enabled (60 s). One full MS (MS1) scan (400–1800 m/z) was followed by 15 MS2 scans of the most abundant ions. Heated capillary temperature was set to 200°C, and the nanospray voltage was set to 2.75 kV.

For MudPIT runs, samples were run with the following five-step MudPIT program (using 0%, 10%, 25%, 80%, and 100% salt bumps). Data were extracted in the form of MS1 and MS2 files using Raw Extractor 1.9.9.2 (Scripps Research Institute) and searched against the Uniprot mouse database using the ProLuCID search methodology in IP2 v.3 (Integrated Proteomics Applications, Inc.).²² Cysteine residues were searched with a static modification for carboxyamino-methylation (+57.02146) and up to two differential modifications for either the light or heavy TEV tags (+464.28596 or +470.29977, respectively). Peptides were required to have at least one tryptic end and to contain the TEV modification. ProLUCID data were filtered through DTASelect to achieve a peptide false-positive rate below 1%.

Gel-Based ABPP

Gel-based ABPP methods were performed as previously described.²³ HIS6–UBA5 (0.06 μ g) protein was pretreated with DMSO or DKM 2-93 for 30 min at RT in an incubation volume of 50 μ L of PBS and were subsequently treated with IAyne (10 μ M final concentration) for 30 min at 37°C. Copper-catalyzed azide– alkyne cycloaddition “click chemistry” was performed to append rhodamine-azide onto IAyne probe-labeled proteins. The samples were separated by SDS/PAGE and scanned using a ChemiDoc MP (Bio- Rad Laboratories, Inc.). Inhibition of target labeling was assessed by

densitometry using ImageStudio Light software.

UBA5 Activity Assay

HIS6-UBA5 and HIS6-UFM1 were purchased from Boston Biochem. UBA5 (1.25 μ M) was pre-incubated for 30 min with either DMSO or DKM 2-93 in buffer (50 mM Tris-HCl, pH 7, 5 mM MgCl₂), and then incubated with UFM1 (52.5 μ M) ATP (1 μ M) for 90 min at RT, after which the reaction was quenched in 6x non-reducing loading dye, and proteins were separated on a 4-20% TGX non-reducing denaturing gel, followed by western blot analysis using anti-HIS6 antibody (Abcam, ab18184).

UBA5 Knockdown

UBA5 was knocked down transiently with siRNA or stably with shRNA as previously described.^{21,24} For siRNA studies, PaCa2 cells (200,000 cells/well) were seeded overnight, after which siControl (nontargeting siRNA) or siUBA5 siRNA oligonucleotides (five pooled siRNAs targeting UBA5 purchased from Dharmacon) were transfected into cells using Dharmafect 2. Cells were harvested after 48 h for qPCR and for seeding for cell viability assays.

For shRNA studies, shControl (targeting GFP) and shUBA5 constructs (purchased from Sigma) were transfected into HEK293T cells alongside lentiviral vectors using Lipofectamine 2000. Lentivirus was collected from filtered cultured medium 48 h post-transfection and used to infect the target cancer cell line with Polybrene (0.01 mg/mL). Target cells were selected over 3 days with 1 mg/mL puromycin. The short-hairpin sequence used for generation of the UBA5 knockdown lines was CCGGCCTCAGTGTGATGACA-GAAATCTCGAGATTTCTGTCATCACACTGAGGTTTT. The control shRNA was targeted against GFP with the target sequence GCAAGCTGACCCTGAAGTTCAT. Knockdown was confirmed by qPCR.

qPCR

qPCR was performed using the manufacturer's protocol for Fisher Maxima SYBR Green with 10 mM primer concentrations or for Bio-Rad SsoAdvanced Universal Probes Supermix. Primer sequences for Fisher Maxima SYBR Green were derived from Primer Bank. Primer sequences for Bio-Rad SsoAdvanced Universal Probes Supermix were designed with Primer 3 Plus.

Primary Human Pancreatic Tumors

Eligible patients completed written consent for our tissue banking protocol that is approved by the University of Alabama at Birmingham Institutional Review Board. During the pancreatic tumor resection, a 1 cm³ portion of the tumor was dissected free of the fresh resection specimen, divided into 4-5 aliquots, placed into 1.5 mL cryovials, flash frozen, and stored at -80°C. Adjacent nontumor bearing pancreatic tissue was also collected and banked in a similar manner.

Figures

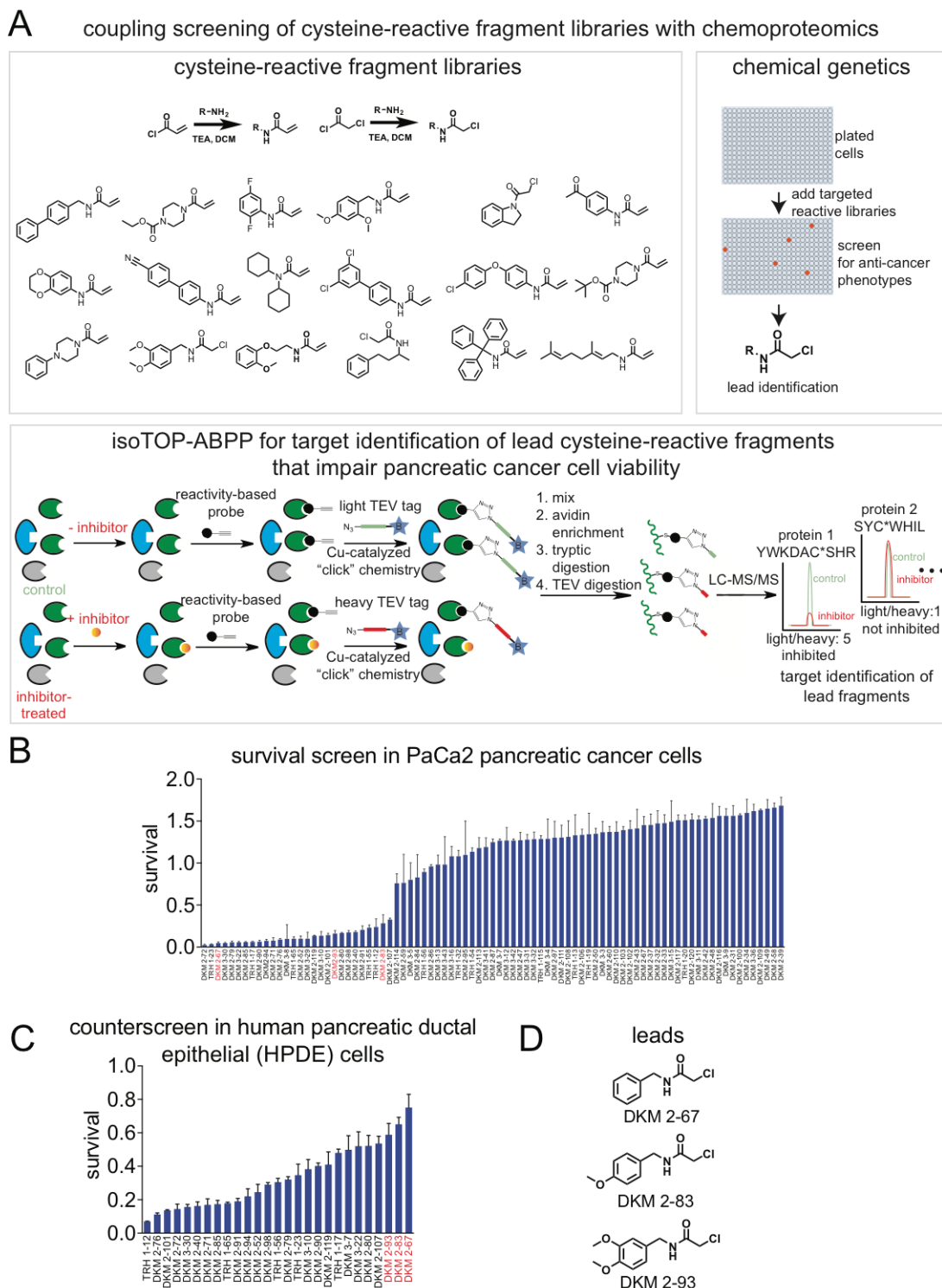


Figure 1-1. Coupling reactive fragment screening with isoTOP-ABPP to identify covalent ligands, targets, and druggable hotspots for pancreatic cancer. (A) We screened a library of cysteine-reactive fragments in pancreatic cancer cells to identify leads that impair pancreatic cancer pathogenicity and used isoTOP-ABPP platforms to

identify the targets and site of labeling of these leads. Shown in the upper left box are examples of acrylamides and chloroacetamides that were screened here. The full composition of the library is in Appendix 1-1. (B) A library of cysteine-reactive acrylamides and chloroacetamides were screened in PaCa2 pancreatic cancer cells (50 μ M) to identify any compounds that impaired PaCa2 48 h serum-free cell survival. Cell survival was assessed using Hoescht staining. (C) Leads from this screen were counterscreened in HPDE cells to identify agents that did not significantly impair serum-free cell survival in these cells. (D) Shown are lead molecules that impaired PaCa2 cell survival but showed the least degree of viability impairments in HPDE cells. Data in B and C are presented as mean \pm SEM, n = 3/group. Raw data for the screen can be found in Appendix 1-2.

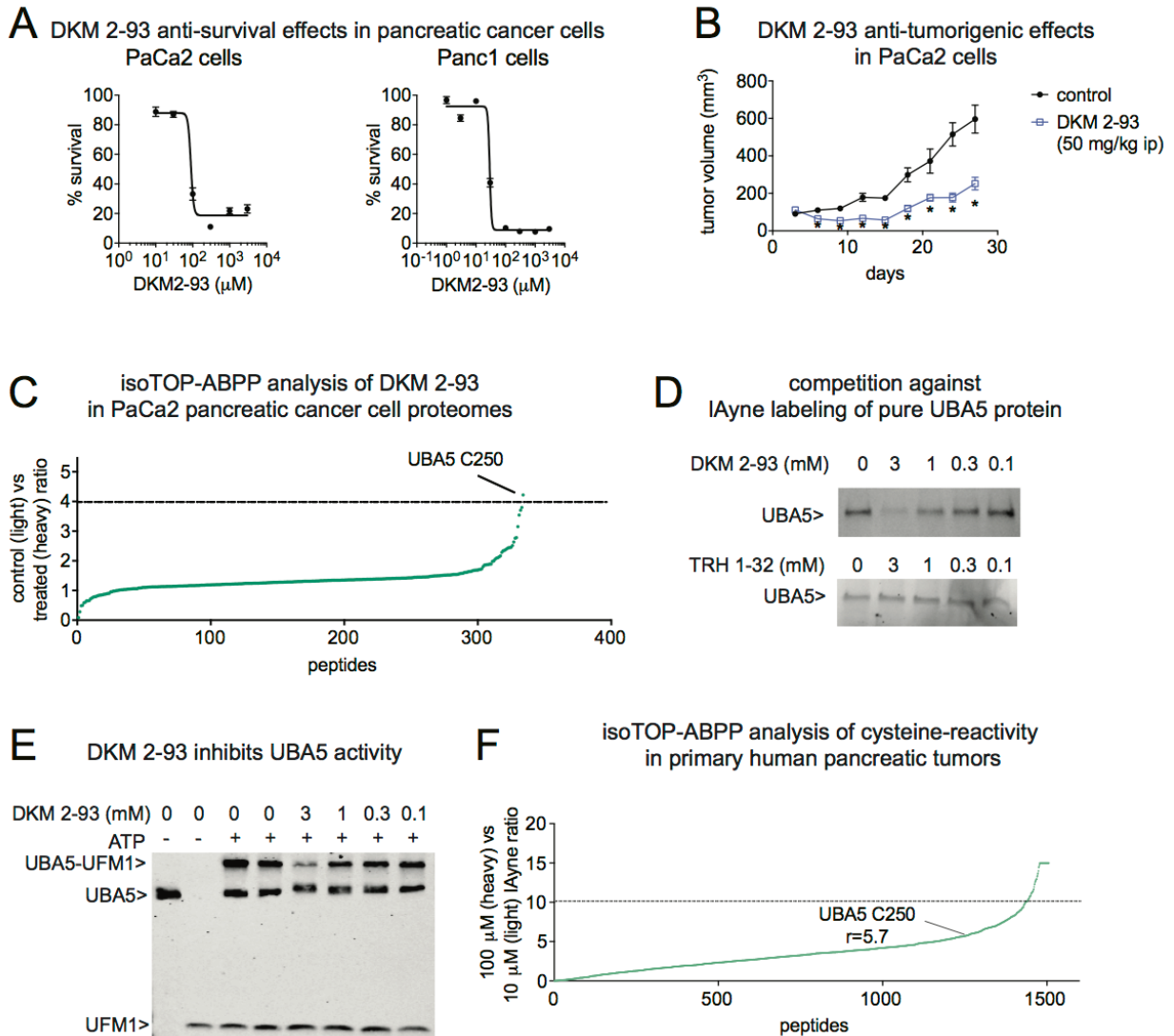


Figure 1-2. DKM 2-93 targets the catalytic cysteine of UBA5. (A) Dose response of DKM 2-93 in PaCa2 and Panc1 pancreatic cancer cells in a 48 h serum-free survival assay. (B) PaCa2 tumor xenograft growth in immune-deficient SCID mice. Mice were subcutaneously injected with PaCa2 cells to initiate the tumor xenograft study, and treatments of mice were initiated with vehicle or DKM 2-93 (50 mg/kg ip, once per day) 3 days after injection of cancer cells. (C) IsoTOP-ABPP analysis of DKM 2-93 in PaCa2 cells. PaCa2 proteomes were pretreated with DMSO or DKM 2-93 (50 μ M) prior to labeling proteomes with IAtyne and appending a biotin-azide handle bearing a TEV protease recognition site and an isotopically light (for DMSO-treated) and heavy (for DKM 2-93-treated) tag. DMSO and DKM 2-93-treated proteomes were then mixed in a 1:1 ratio and subsequently avidin-enriched, tryptically digested, and then probe-modified tryptic peptides were released by TEV protease and analyzed using quantitative proteomic approaches. Peptide ratios shown are average ratios for those probe-modified peptides that were identified in at least two out of three biological replicates. A

light to heavy ratio of 1 indicates that the probe-labeled cysteine-bearing peptide was not bound by DKM 2-93, whereas a ratio >3 indicates bound sites. (D) Gel-based ABPP validation of UBA5 as a target of DKM 2-93. DMSO or DKM 2-93 was preincubated with pure human UBA5 (30 min) prior to labeling with IAyne (10 μ M, 30 min), followed by rhodamine-azide conjugation by CuAAC, SDS/PAGE, and readout of gel fluorescence. Shown is a representative gel from n=3. (E) UBA5 activity assay. UBA5 was preincubated with DMSO or DKM 2-93, then UFM1 and ATP were added to initiate the reaction. DTT is used as a negative control to release the UBA5-UFM1 thioester linkage. Shown is a representative gel from n=3. (F) IsoTOP-ABPP analysis of cysteine-reactivity in pooled primary human pancreatic ductal adenocarcinoma tumors. Ten primary human pancreatic tumor lysates were pooled together and labeled with 100 or 10 μ M of IAyne followed by subsequent isoTOP-ABPP analysis. Shown are ratios of heavy (100 μ M) to light (10 μ M) peptides. Data in A and B are presented as mean \pm SEM, n = 5-8/group. Significance is expressed as *p < 0.05 compared to vehicle-treated or siControl or shControl cells. Raw and processed isoTOP-ABPP data for C and F can be found in Appendices 1-3 and 1-4.

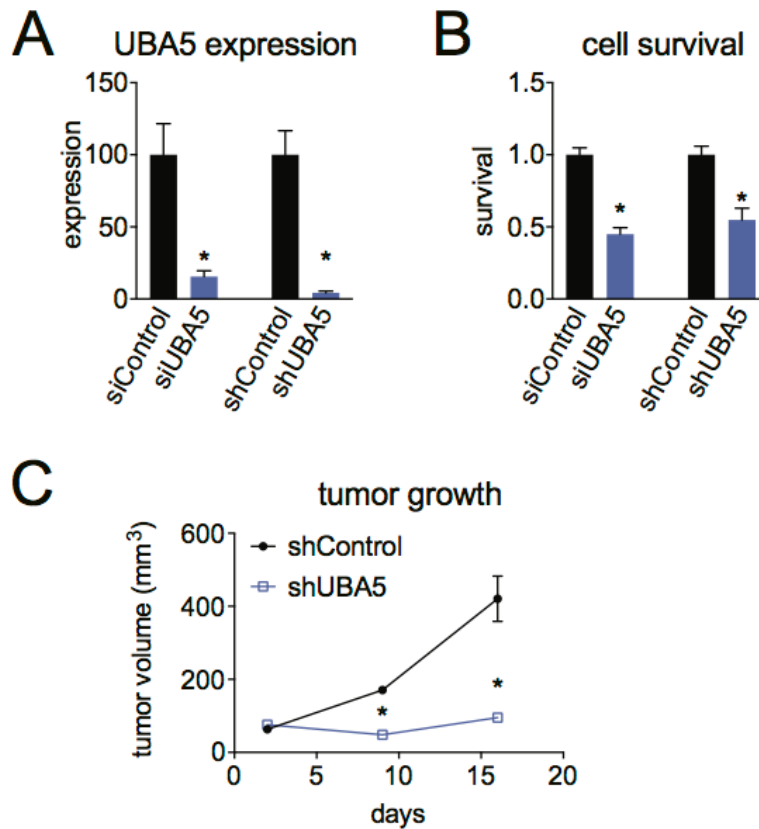


Figure 1-3. Impairment of pancreatic cancer pathogenicity by UBA5 knockdown. (A) UBA5 expression in PaCa2 cells. UBA5 was transiently knocked down with siRNA and stably knocked down with shRNA, and expression was determined by qPCR. (B) Serum-free cell survival (48 h) from transient siRNA or stable shRNA knockdown of UBA5 in PaCa2 cells. (C) Tumor xenograft growth of shControl and shUBA5 PaCa2 cells in immune-deficient SCID mice. Data are presented as mean \pm SEM, n = 3–6/group. Significance is expressed as *p < 0.05 compared to siControl or shControl cells.

CHAPTER TWO: Utilizing Chemoproteomic Technologies to Discover Novel Anti-Cancer Covalent Ligands and Drivers in Colorectal Cancer

Introduction

Traditional strategies for cancer target discovery often involve searching for proteins or genes that are dysregulated or mutated in tumors, which may miss promising therapeutic targets that are not necessarily changing in expression or activity. Screening chemical libraries for anti-cancer small-molecules using chemical genetics strategies has arisen as a powerful complementary approach to traditional target discovery approaches for mining druggable nodes that can be pharmacologically interrogated in cancer.^{12,13} However, a major challenge of chemical genetics is identifying the targets of leads that arise from screens. Oftentimes, lead compounds must be derivatized to bear bioorthogonal and/or photoaffinity handles or conjugated to beads to facilitate chemoproteomic target identification.¹³ However, these approaches frequently require additional synthetic efforts to make analogs of the lead molecule thereby hindering or preventing target identification.

Here, we have coupled the screening of a cysteine-reactive covalent ligand library with an isotopic tandem orthogonal proteolysis-enabled activity-based protein profiling (isoTOP-ABPP) platform to rapidly identify covalent ligands that impair colorectal cancer pathogenicity and map the druggable hotspots targeted by these hits (Fig. 2-1 A). In this study, we successfully utilized this combined approach to identify a novel cysteine-reactive covalent ligand that impairs colorectal cancer pathogenicity, as well as novel protein targets in colorectal cancer.

Chemical genetics screen of cysteine-reactive covalent ligands yields DKM 3-30 as a compound that significantly impairs colorectal cancer cell survival

We screened our cysteine-reactive ligand library of acrylamides and chloroacetamides to identify compounds that impair colorectal cancer cell survival and proliferation in the highly metastatic and tumorigenic SW620 colorectal cancer cell line (Fig. 2-1 B and Appendix 2-2). We identified a lead acrylamide DKM 3-30 as the top hit from this screen which significantly impaired both serum-free cell survival and proliferation in SW620 colorectal cancer cells (Fig. 2-1 C and D). We further showed that SW620 colorectal tumor xenograft growth was significantly impaired upon in vivo treatment of mice with DKM 3-30, started 10 days after the initiation of the xenograft, without any changes in body weight or any signs of overt toxicity (Fig. 2-1 E and Appendix 2-4). Taken together, our data indicated that DKM 3-30 significantly impaired SW620 colorectal cancer pathogenicity.

Chemoproteomic analysis of DKM 3-30

We next performed isoTOP-ABPP studies to identify the direct targets of these lead compounds. We competed either vehicle or DKM 3-30 against labeling of SW620 proteomes with a broad cysteine-reactive probe, iodoacetamide-alkyne (IAyne), followed by appending probe-labeled proteins with a biotin-azide tag bearing a TEV protease recognition site and an isotopically light (for vehicle-treated) or heavy (for fragment-treated) tags via copper catalyzed azide-alkyne cycloaddition

(CuAAC).^{11,26} We then combined control and treated proteomes in a 1:1 ratio, enriched probe-labeled proteins with avidin, and digested proteomes with trypsin. Avidin-enriched probe-modified tryptic peptides were released by TEV protease digestion for subsequent quantitative proteomic analysis. Through these studies, we identified the top hit for DKM 3-30 as C1101 in reticulon 4 (RTN4, Uniprot ID Q9NQC3-1) with a light to heavy ratio of 3.0 (Fig. 2-2 A and Appendix 2-3). We further validated this hit by competing DKM 3-30 against IAYne labeling of pure human RTN4 protein using gel-based ABPP methods (Fig. 2-2 A).

To help determine the relevance of RTN4 in colorectal cancer, we performed isoTOP-ABPP analysis to quantitatively map proteome-wide reactivity of cysteines in pooled primary human colorectal tumors through comparative ratiometric analysis of IAYne labeling at 100 (heavy) versus 10 mM (light) concentrations. This approach proved effective in our studies of UBA5 discussed in chapter one. Previous studies by Weerapana et al. have shown that hyper-reactive cysteines, which show saturated IAYne labeling at lower concentrations and thus exhibit a lower (< 3) heavy to light ratio, are highly enriched in functional cysteines, compared to those sites that are not hyper-reactive that show heavy to light ratios of ~10.²⁷ We identify RTN4 labeling of C1101 in primary human colorectal tumors. RTN4 C1101 shows a ratio of 6.2 indicating that this cysteine is not hyper-reactive (Fig. 2-2 B). Our data therefore shows that RTN4 is present and that C1101 within RTN4 is accessible in primary human colorectal tumors.

RTN4 importance to colorectal cancer survival

We confirmed the relevance of RTN4 in colorectal cancer by showing that transient or stable knockdown of RTN4 by RNA interference phenocopies the impaired survival, proliferation, and anti-tumorigenic effects observed with DKM 3-30 in SW620 colorectal cancer cells (Fig. 2-2 C and D). To further confirm that the cell viability impairments conferred by DKM 3-30 are due to RTN4, we tested the effect of this compound in mouse embryonic fibroblasts (MEF) with or without the expression of human RTN4. Mouse *Rtn4* possesses a serine instead of cysteine at the analogous site to human RTN4 (C1101). We show that DKM 3-30 does not show viability impairments in GFP-expressing MEF cells but induces apoptosis in MEF cells expressing human RTN4-GFP (Appendix 2-5).

While little is known about the role of RTN4 in cancer pathogenicity, RTN4 is known to be a critical mediator of endoplasmic reticulum (ER) tubule formation.²⁸⁻³⁰ Interestingly, Voeltz et al. found that tubular ER network formation in a reconstituted *in vitro* system was disrupted by thiol modifying agents and discovered that xenopus RTN4 was responsible for this action.³¹ Intriguingly, one of these cysteines, C952 of xenopus RTN4,²⁹ corresponds to C1101 of human RTN4 identified in our study (Appendix 2-6). C1101 is present in all human RTN4 isoforms, but is absent in other reticulon family members (RTN1-3) (Appendix 2-7). This cysteine is positioned within a cytosolically exposed linker between two tandem hydrophobic regions (Fig. 2-3 A), which allow RTN4 to adopt a characteristic wedge-shaped hairpin conformation required for generating highly curved membranes and tubular ER structures.³⁰ A solution NMR

structure of a mouse RTN4 fragment revealed that this linker region forms a compact helical bundle with a portion associated with the membrane³² and a threaded homology model of the human RTN4 linker region indicates that C1101 is present in a cytosol-accessible helix (Fig. 2-3 A).

We postulated that covalent modification of RTN4 (C1101) by DKM 3-30 would impact the formation of ER tubular networks in cells. We attempted to analyze the effects of DKM 3-30 in SW620 colorectal cancer cells, and while the structural images suggest alterations in the ER morphology (Appendix 2-8) the reticular nature of the ER was difficult to visualize in this cell type. Therefore, we utilized U2OS osteosarcoma cells, which are a well-established cell line for the analysis of ER morphology. As expected, control U2OS cells expressing the ER marker GFP-Sec61b displayed a highly reticular ER with clearly visible tubular ER in the cell periphery (Fig. 2-3 B). Treatment of U2OS cells with DKM 3-30 for 8 h and 16 h resulted in a striking loss of nearly all peripheral ER tubules and an increase in ER that exhibited sheet-like morphology (Fig. 2-3 B). To more precisely define the temporal dynamics of DKM 3-30 on ER structure, we performed time-lapse imaging of GFP-Sec61b expressing cells (Fig. 2-3 C). In contrast to vehicle-treated control cells (Fig. 2-3 C), treatment with DKM 3-30 resulted in the loss of peripheral ER tubules and the accumulation of sheet-like ER structures (Fig. 2-3 D). The alterations in the ER morphology were evident as early as 0.5-1 h and the ER architecture became progressively more distorted, with some cells exhibiting extremely aberrant, circular ER structures (Appendix 2-9). Consistent with the importance of RTN4 in ER structure, siRNA-mediated depletion of RTN4 resulted in the appearance of similarly altered ER morphologies (Fig. 2-3 E and F). Together, these results suggest that DKM 3-30 acutely impairs RTN4 function in ER tubules formation or maintenance.

Cell division requires elaborate rearrangements in the ER and the nuclear envelope to ensure correct inheritance of DNA and segregation of DNA within a single nucleus.³³ During prophase the nuclear envelope retracts into the ER and then reforms during telophase. The reticulon family of proteins, and the transition between ER tubules and sheets, have been implicated in nuclear envelope assembly and disassembly during mitosis.^{31,34,35} Timelapse imaging of mitotic cells revealed that control cells divided rapidly (~50–60 min) (Fig. 2-4 A). In contrast, DKM 3-30-treated cells exhibited prolonged mitosis (~3–4 h) (Fig. 2-4 B), possibly reflecting complications in the division process. Indeed, DKM 3-30-treated cells contained aberrant nuclei that were bisected by GFP-Sec61b positive structures (Fig. 2-4 B). Distortions in the nuclear envelope were also frequently observed during interphase in DKM 3-30-treated cells, including multi-lobed, cloverleaf-like nuclear envelope morphologies that often preceded cell death (Fig. 2-4 C). Thus, disrupting RTN4-mediated ER remodeling may impair colorectal cancer pathogenicity by altering ER homeostasis and nuclear envelope assembly and disassembly during mitosis.

Improving the potency and selectivity of DKM 3-30

We also synthesized analogs of DKM 3-30 and showed that YP 1-46 demonstrated less displacement of IAYne labelling of RTN4, whereas AMR 1-125 exhibited ~7-fold

improved potency compared to DKM 3-30. We further showed that AMR 1-125, but not YP 1-46, impaired cell survival in U2OS and SW620 cells and ER morphology in U2OS cells (Fig. 2-5 A-C and Appendix 2-10).

Conclusions

In summary, we identify RTN4 as a novel colorectal cancer therapeutic target, and reveal a unique druggable hotspot within this classically undruggable protein, which can be targeted by cysteine-reactive ligands such as DKM 3-30 to impair ER and nuclear envelope morphology and colorectal cancer pathogenicity. Overall, we highlight the utility of coupling the screening of covalent ligand libraries with isoTOP-ABPP for mining the proteome for novel druggable nodes that can be targeted for cancer therapy.

Materials and Methods

Materials

IAyne was obtained from CHESS GmbH. Heavy and light TEV-biotin tags were synthesized per previously described methods.^{4,25}

Cell Culture

SW620 cells were purchased from ATCC. SW620 cells were grown in L-15 media with 10% fetal bovine serum (FBS) in ambient CO₂. U2OS cells were grown in DMEM media supplemented with 10% FBS at 37°C with 5% CO₂.

Cellular Survival and Proliferation Assays

Cells were plated the evening before the experiment, and allowed to adhere overnight. For serum-free cell survival assays, cells were plated in media not containing FBS. For cell proliferation assays, cells were plated in regular media. For the chemical genetics screen, cells were treated with either DMSO or the cysteine-reactive fragment for 48 h and cell viability was assessed by Hoescht stain using our previously described methods.²¹

Tumor Xenograft Growth Studies

C.B17 SCID male mice (6-8 weeks old) were injected subcutaneously into the flank with 2,000,000 cells in serum-free media. For pharmacological treatments, mice were exposed by intraperitoneal (ip) injection with either vehicle (18:1:1 PBS/ethanol/PEG40) or 50 mg/kg DKM 3-30 once per day starting ten days after the initiation of the xenograft experiment and until the completion of the study. Tumors were measured every 7 days by caliper measurements. Animal experiments were conducted in accordance with the guidelines of the Institutional Animal Care and Use Committee of the University of California, Berkeley.

IsoTOP-ABPP Analysis

IsoTOP-ABPP analyses were performed as previously described.^{14,25,26} For competitive IsoTOP-ABPP, SW620 cell lysates were pre-incubated with DMSO vehicle or DKM 3-30 (50 μM) for 30 min at 37°C in phosphate-buffered saline (PBS), and then labeled with IAyne (100 μM) for 1 h at room temperature. They were subsequently treated with isotopically light (control) or heavy (treated) TEV-biotin (100 μM) and CuAAC was performed as previously described.^{14,25} For analysis of cysteine reactivity in primary colorectal tumor tissue, tumors were pooled and incubated with either 100 μM IAyne and isotopically heavy TEV-biotin or 10 μM IAyne and isotopically light TEV-biotin followed by CuAAC. Proteins were precipitated over one hour and pelleted by centrifugation at 6500 x g. Proteins were washed 3 times with cold methanol then denatured and resolubilized by heating in 1.2% SDS/PBS to 85°C for 5 min. Insoluble components were precipitated by centrifugation at 6500 x g and soluble proteome was

diluted in 5 ml PBS, for a final concentration of 0.2% SDS. Labeled proteins were bound to avidin-agarose beads (170 μ L resuspended beads/sample, Thermo Pierce) while rotating overnight at 4°C. Bead-linked proteins were enriched by washing three times each in PBS and water, then resuspended in 6 M urea/PBS (Sigma- Aldrich) and reduced in dithiothreitol (1 mM, Sigma-Aldrich), alkylated with iodoacetamide (18 mM, Sigma-Aldrich), then washed and resuspended in 2 M urea/PBS with 1 mM calcium chloride and trypsinized overnight with 0.5 μ g/ μ l sequencing grade trypsin (Promega). Tryptic peptides were discarded and beads were washed three times each in PBS and water, then washed with one wash of TEV buffer containing 1 μ M DTT. TEV-biotin tag was digested overnight in TEV buffer containing 1 μ M DTT and 5 μ L Ac-TEV protease at 29°C. Peptides were diluted in water and acidified with final concentration of 5% formic acid (1.2 M, Spectrum).

Peptides from all proteomic experiments were pressure-loaded onto a 250 mm inner diameter fused silica capillary tubing packed with 4 cm of Aqua C18 reverse-phase resin (Phenomenex # 04A-4299) which was previously equilibrated on an Agilent 600 series HPLC using gradient from 100% buffer A to 100% buffer B over 10 min, followed by a 5 min wash with 100% buffer B and a 5 min wash with 100% buffer A. The samples were then attached using a MicroTee PEEK 360 μ m fitting (Thermo Fisher Scientific #p-888) to a 13 cm laser pulled column packed with 10 cm Aqua C18 reverse-phase resin and 3 cm of strong-cation exchange resin for isoTOP-ABPP studies. Samples were analyzed using an Q Exactive Plus mass spectrometer (Thermo Fisher Scientific) using a 5-step Multidimensional Protein Identification Technology (MudPIT) program, using 0 %, 25 %, 50 %, 80 %, and 100 % salt bumps of 500 mM aqueous ammonium acetate and using a gradient of 5-55 % buffer B in buffer A (buffer A: 95:5 water:acetonitrile, 0.1 % formic acid; buffer B 80:20 acetonitrile:water, 0.1 % formic acid). Data was collected in data-dependent acquisition mode with dynamic exclusion enabled (60 s). One full MS (MS1) scan (400-1800 m/z) was followed by 15 MS2 scans (ITMS) of the nth most abundant ions. Heated capillary temperature was set to 200°C and the nanospray voltage was set to 2.75 kV.

Data was extracted in the form of MS1 and MS2 files using Raw Extractor 1.9.9.2 (Scripps Research Institute) and searched against the Uniprot mouse database using ProLuCID search methodology in IP2 v.3 (Integrated Proteomics Applications, Inc).²² Cysteine residues were searched with a static modification for carboxyamino-methylation (+57.02146) and up to two differential modifications for methionine oxidation and either the light or heavy TEV tags (+464.28596 or +470.29977, respectively). Peptides were required to have at least one tryptic end and to contain the TEV modification. ProLUCID data was filtered through DTASelect to achieve a peptide false-positive rate below 1%.

Gel-Based ABPP

Gel-based ABPP methods were performed as previously described.²³ Recombinant RTN4 (0.06 μ g) protein (RTN4-Fisher Scientific) were pre-treated with DMSO or DKM 3-30, respectively, for 1 h at 37°C in an incubation volume of 50 μ L PBS, and were subsequently treated with IAYne (10 μ M final concentration) for 30 min at 37°C. CuAAC

was performed to append rhodamine-azide onto IAYNE probe-labeled proteins. The samples were separated by SDS/PAGE and scanned using a ChemiDoc MP (Bio-Rad Laboratories, Inc). Inhibition of target labeling was assessed by densitometry using ImageStudio Light software.

RTN4 Knockdown

Targets were knocked down transiently with siRNA or stably with shRNA as previously described.^{21,24} For siRNA studies, SW620 cells (200,000 cells/well) were seeded overnight after which siControl (non-targeting siRNA) or siRTN4 oligonucleotides (5 pooled siRNAs targeting each target purchased from Dharmacon) were transfected into cells using Dharmafect 1. Cells were harvested after 48 h for qPCR and for seeding for cell viability assays.

For shRNA studies, shControl (targeting GFP) or shRTN4 constructs (purchased from Sigma) were transfected into HEK293T cells alongside lentiviral vectors using FuGENE. Lentivirus was collected from filtered cultured medium 48 h post-transfection and used to infect the target cancer cell line with Polybrene (0.01 mg/ml) Target cells were selected over 3 days with 1 mg/ml puromycin. The short hairpin sequences for the generation of RTN4 knockdown lines were:

CCGGGCAGTGTGATGTGGGTATTTCTCGAGAAATACCCACATCAACACTGCTTTT
T TG and

CCGGGCTATATCTGAGGAGTTGGTTCTCGAGAACCAACTCCTCAGATATAGCTTTT
T TG. The control shRNA was targeted against GFP with the target sequence
GCAAGCTGACCCTGAAGTTCAT. Knockdown was confirmed by qPCR.

qPCR

qPCR was performed using the manufacturer's protocol for Fisher Maxima SYBR Green with 10 mM primer concentrations or for Bio-Rad SsoAdvanced Universal Probes Supermix. Primer sequences for Fisher Maxima SYBR Green were derived from Harvard Primer Bank. Primer sequences for Bio-Rad SsoAdvanced Universal Probes Supermix were designed with Primer 3 Plus.

Fluorescence microscopy

SW620 and U2OS cells were transiently transfected with a plasmid encoding GFP-tagged Sec61 β (kindly provided by Gia Voeltz, University of Colorado Boulder) using fuGENE6 (Roche) according to the manufacturer's instructions. Transfected cells plated on poly-L-lysine treated coverslips were treated, washed in PBS, and fixed by incubation in 4% paraformaldehyde in PBS for 10 min. Fixed cells were washed extensively in PBS and nuclei stained by addition of 4',6-diamidino-2-phenylindole (DAPI) (Thermo Fisher Scientific) for 10 min. Coverslips were mounted using Fluoromount-G (SouthernBiotech) and visualized using a DeltaVision Elite microscope outfitted with a 60x oil immersion objective. Acquired stacks of images of fixed cells were deconvolved and analyzed using SoftWoRx and ImageJ. For time-lapse imaging of live cells, transfected cells were plated on poly-L-lysine treated glass-bottom 4-well

imaging chambers (Lab-Tek II; Thermo Fisher Scientific). Imaging was performed using a DeltaVision Elite microscope encased in a chamber that was maintained at 37°C and was continuously perfused with humidified 5% CO₂. Acquired images were analyzed using SoftWoRx and ImageJ.

Homology modeling and multiple sequence alignments

The threaded homology model of the human Rtn4 (amino acids 1054-1120 of Rtn4a) on the NMR solution structure of the corresponding region of mouse Rtn4 (PDB 2KO2) was generated using Protein Homology/analogy Recognition Engine V 2.0 (Phyre2). Figures were made using PyMOL. Multiple sequence alignments were generated using Clustal Omega and figures were made using BoxShade.

Primary Human Colorectal Tumors

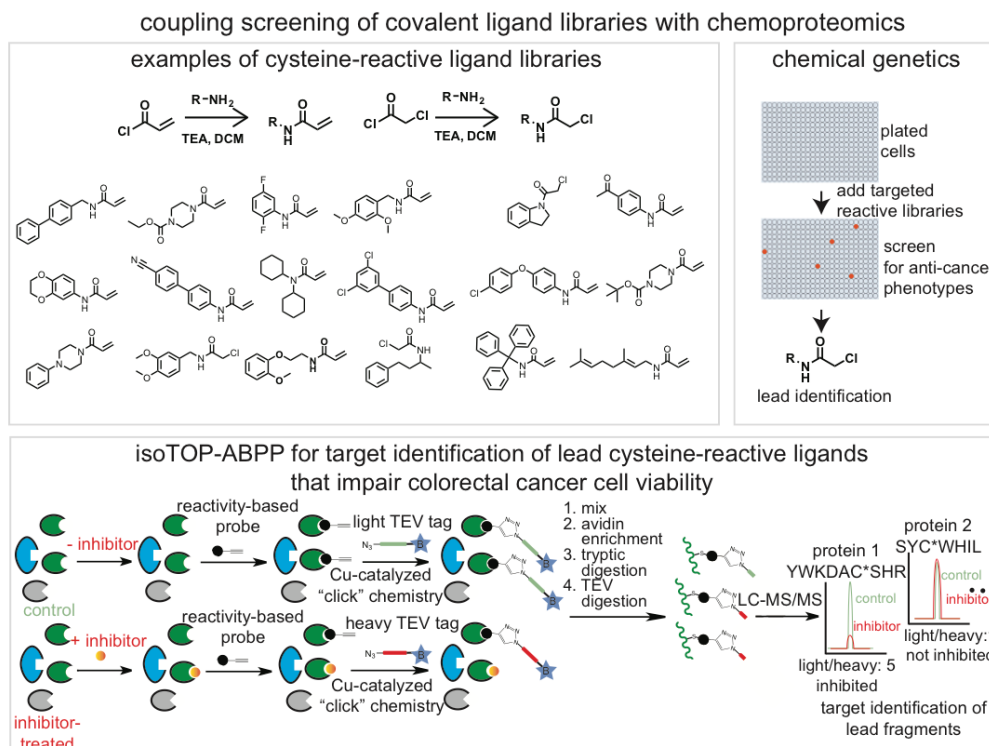
Eligible patients completed written consent for our tissue banking protocol that is approved by the University of Alabama at Birmingham Institutional Review Board. During the colorectal tumor resection, a 1 cm³ portion of the tumor was dissected free of the fresh resection specimen, divided into 4-5 aliquots, placed into 1.5 mL cryovials, flash frozen, and stored at -80°C. Adjacent non-tumor bearing colorectal tissue was also collected and banked in a similar manner.

Flow cytometry analysis of apoptosis

For the measurement of apoptosis, cells were isolated and stained as described in the manufacturer's instructions. In brief, trypsinized cells and cells present in the media were pelleted by centrifugation at 500x g for 5 min, washed in PBS, and then resuspended in the supplied Binding Buffer (10 mM HEPES/NaOH pH 7.4, 140 mM NaCl, 2.5 mM CaCl₂) containing propidium iodide (BD Biosciences) and Alexa FluorTM 647 annexin V conjugate (Thermo Fisher Scientific). Cells were incubated for 15 min and then diluted with Binding Buffer to a final volume of 0.5 mL. Fluorescence was measured using a BD Biosciences LSR Fortessa cytometer. FlowJo Software was used to quantify the percentage of apoptotic (Annexin V positive and propidium iodide positive) transfected (GFP-positive) cells (n=3). T-test was employed for all statistical analyses.

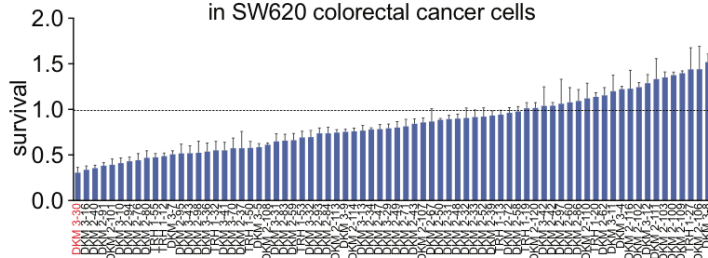
Figures

A

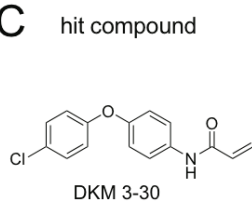


B

serum-free cell survival screen of cysteine-reactive covalent ligands in SW620 colorectal cancer cells

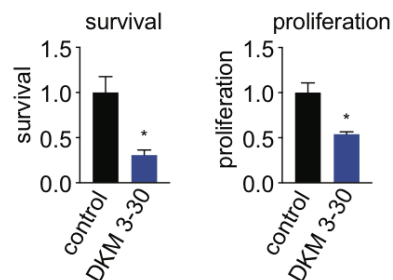


C



D

SW620 cell pathogenicity



E

SW620 tumorigenicity tumor growth

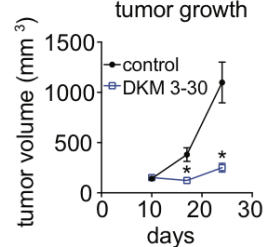


Figure 2-1. Coupling Screening of Cysteine-Reactive Covalent Ligands with isoTOP-ABPP to Identify Anti-Cancer Compounds and Druggable Hotspots for Colorectal Cancer (A) We screened a library of cysteine-reactive fragment-based covalent ligands in colorectal cancer cells to identify compounds that impair colorectal

cancer pathogenicity and used isoTOP-ABPP to identify the druggable hotspots targeted by hits. **(B)** We screened a cysteine-reactive fragment library consisting of acrylamides and chloroacetamides in SW620 colorectal cancer cells (50 μ M) to identify any leads that significantly impaired SW620 serum-free cell survival. **(C, D)** Shown is the structure of the lead covalent ligand DKM 3-30 **(C)** that significantly ($p < 0.05$) impaired SW620 cell survival and proliferation **(D)**. **(E)** SW620 tumor xenograft growth in immune-deficient SCID mice. Mice were subcutaneously injected with SW620 cells to initiate the tumor xenograft study and treatments of mice were initiated with vehicle or DKM 3-30 (50 mg/kg ip, once per day) ten days initiation of the xenograft study. Data in **(B, D, E)** are presented as mean \pm sem, $n=3-8$ /group. Significance expressed as $*p < 0.05$ compared to vehicle-treated controls.

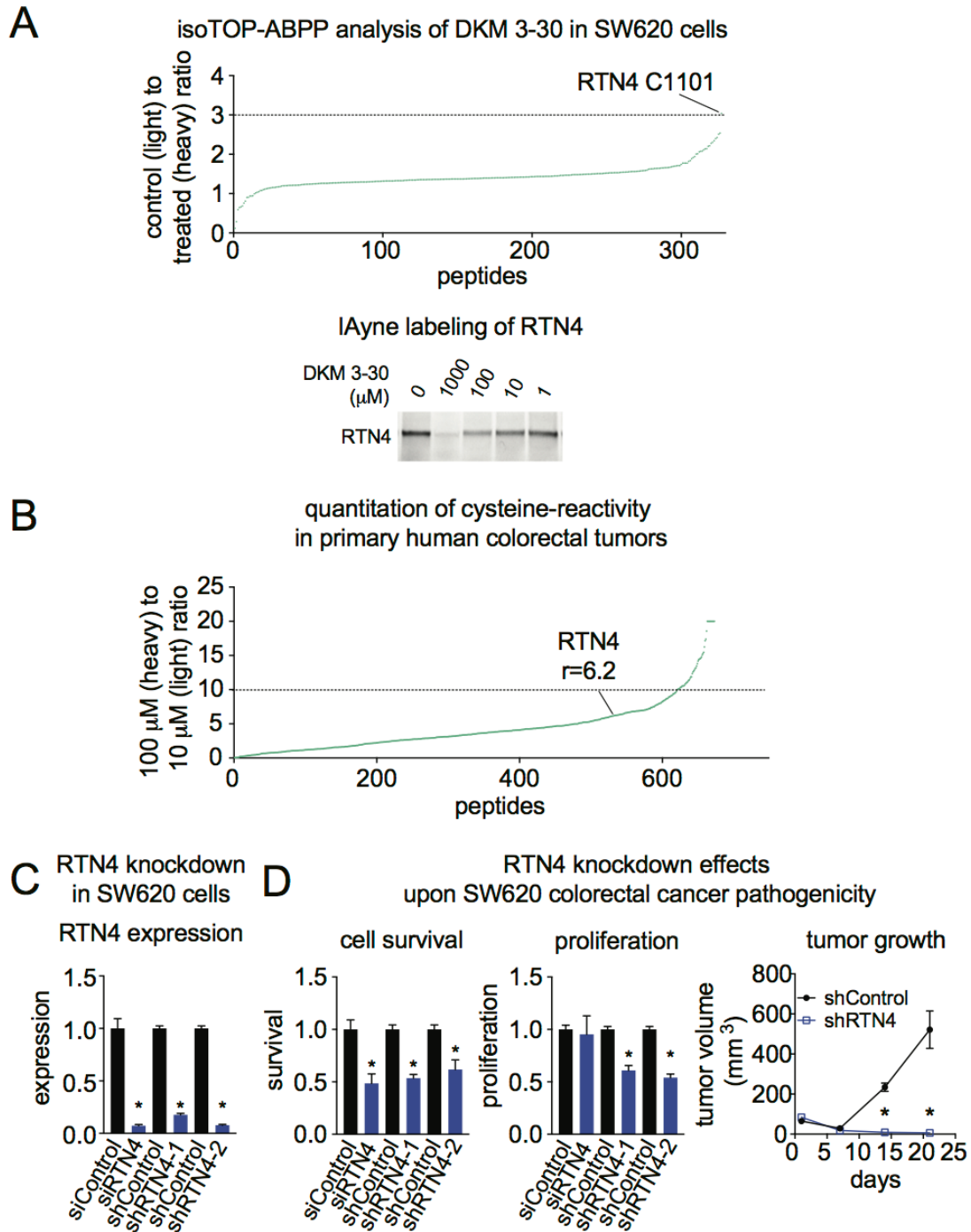


Figure 2-2. DKM 3-30 Targets C1101 on RTN4 (A) IsoTOP-ABPP analysis of DKM 3-30 in SW620 colorectal cancer cells. SW620 proteomes were pre-treated with DMSO or DKM 3-30 (50 μM) prior to labeling proteomes with IAYNE and isoTOP-ABPP analysis. Shown are mean light to heavy ratios for those probe-modified peptides identified in at least 2 out of 3 biological replicates. Also shown is gel-based ABPP validation of DKM 3-30 to RTN4. Pure human RTN4 protein was preincubated with DMSO or DKM for 30

min followed by Iayne labelling. Rhodamine- azide was conjugated by CuAAC and probe-labeled RTN4 was visualized by SDS/PAGE and in-gel fluorescence. **(B)** IsoTOP-ABPP analysis of cysteine-reactivity in pooled primary human colorectal tumors. Nine primary human colorectal tumors were pooled together and labeled with 100 or 10 μM of Iayne followed by subsequent isoTOP-ABPP analysis. Shown are ratios of heavy (100 μM) to light (10 μM) peptides. **(C, D)** Serum-free cell survival and proliferation (48 h) and tumor xenograft growth in SCID mice from transient siRNA or stable shRNA knockdown of RTN4 in SW620 cells. Expression was determined by qPCR. All data shown represents $n=3-6/\text{group}$. Data in **(C, D)** are presented as mean \pm sem. Significance is expressed as $*p<0.05$ compared to vehicle-treated or si or shControls.

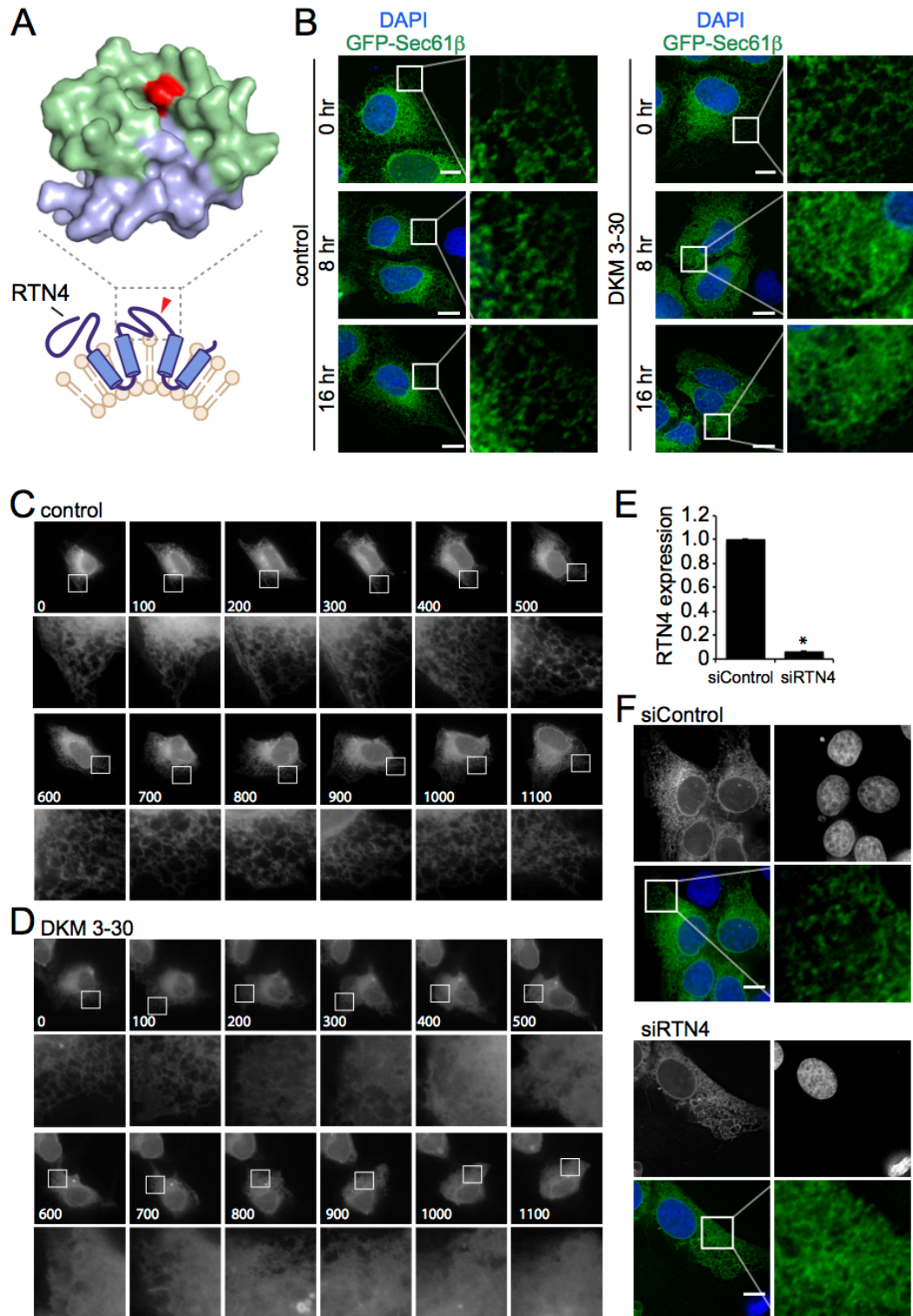


Figure 2-3. DKM 3-30 disrupts the ER tubular network (A) A schematic illustration depicts the proposed topology of Rtn4 and the position of C1101 modified by DKM 3-30 (red arrow). A homology model of human Rtn4 illustrates the membrane-associated

portion (blue), the cytosolically accessible portion (green), and the position of C1101 (red). **(B)** U2OS cells expressing GFP-tagged Sec61 β an ER marker, were treated with DKM 3-30 (50 μ M) for 16 hr and the ER (green) and nucleus (blue) of fixed cells visualized by fluorescence microscopy. Scale bar = 10 μ m. **(C, D)** U2OS cells expressing GFP-tagged Sec61 β were treated with vehicle (DMSO) **(C)** or DKM 3-30 (50 μ M) **(D)** and ER morphology visualized by time-lapse fluorescence microscopy. Time (min) is indicated on each panel. Bottom panels indicate boxed region. **(E)** U2OS cells were transiently transfected with control or RTN4 siRNA and expression determined by qPCR. Data are presented as mean \pm sem, n=3. Significance is expressed as *p<0.05. **(F)** U2OS cells expressing GFP-tagged Sec61 β were transfected with siRNAs as in panel **(D)** and the ER (green) and nucleus (blue) of fixed cells visualized by fluorescence microscopy. Scale bar = 10 μ m.

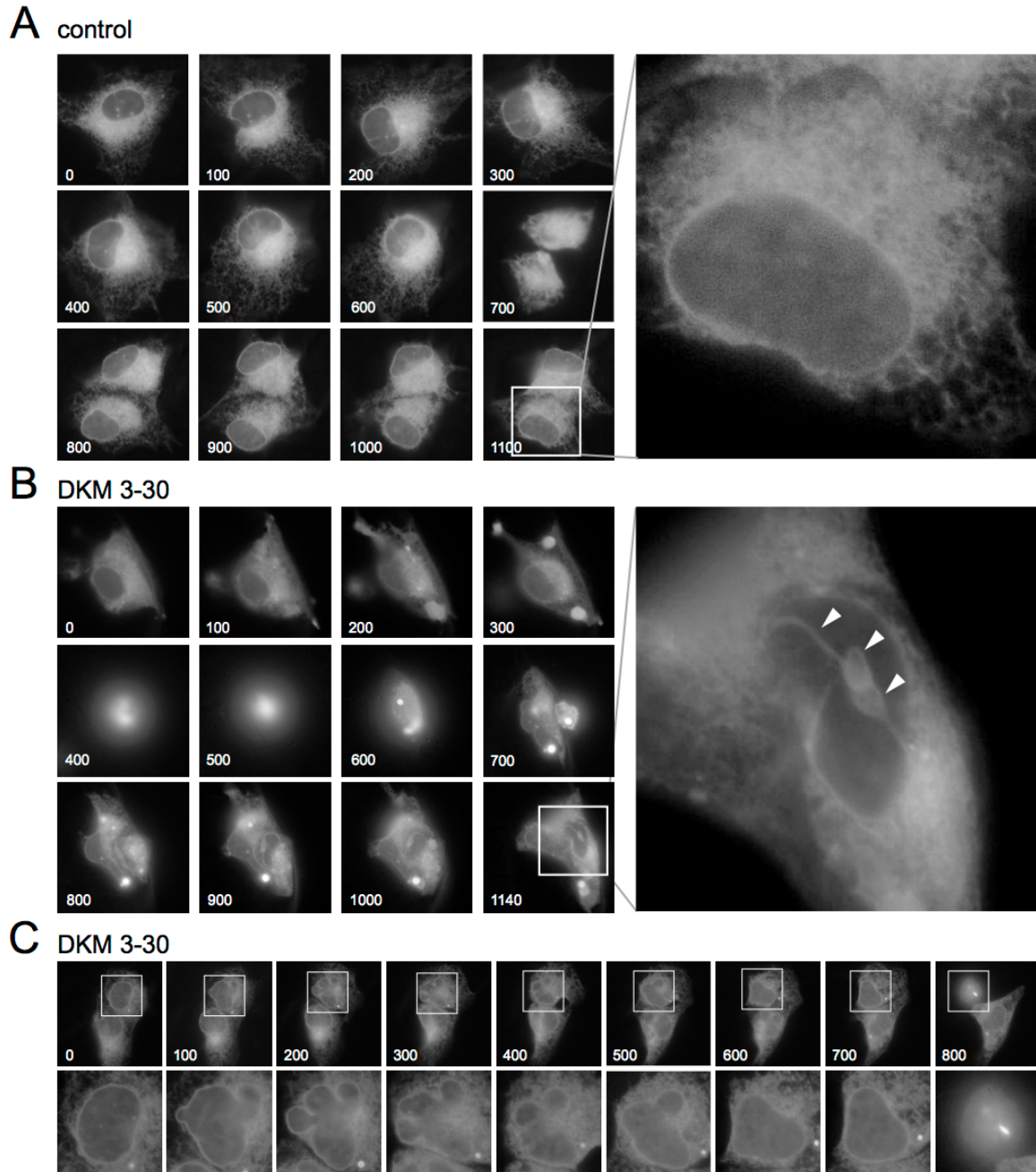


Figure 2-4. DKM 3-30 disrupts nuclear envelope morphology during mitosis (A-C) U2OS cells expressing GFP-tagged Sec61 β were treated with vehicle (DMSO) or DKM 3-30 (50 μ M) and ER morphology of mitotic cells visualized by time-lapse fluorescence microscopy. Time (min) is indicated on each panel. Panels **(A, B)** provide examples of mitotic cells. Enlarged images following mitosis show the nuclear envelope. White arrowheads indicate a GFP-Sec61 β structure bisecting the nucleus of a cell incubated with DKM 3-30. **(C)** shows alterations in the nuclear envelope structure, followed by cell death at the 800 min time point. Bottom panels indicate boxed region.

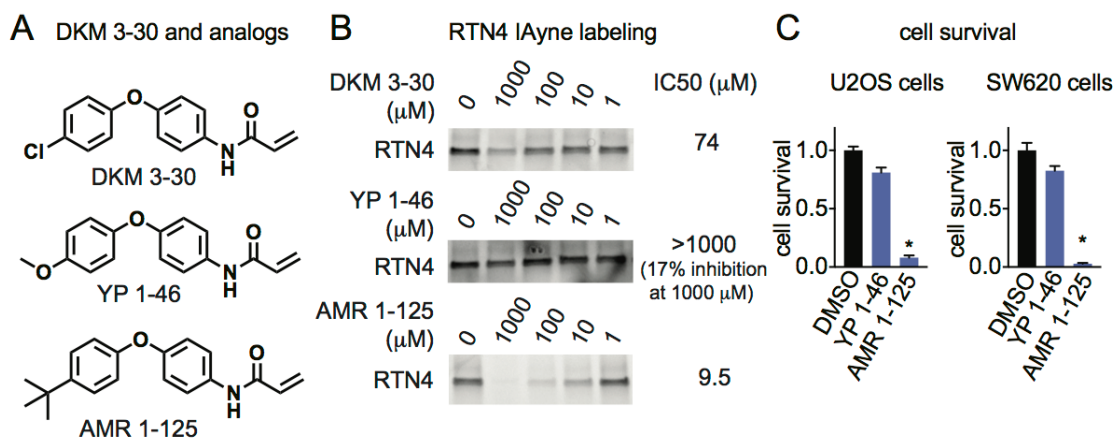


Figure 2-5. DKM 3-30 and analogs (A) Structures of DKM 3-30 and analogs. (B) Gel-based ABPP analysis showing competition side-by-side competition studies of DKM 3-30, YP 1-46, and AMR 1-125 against IA-rhodamine labelling of pure human RTN4. Shown are the 50 % inhibitory concentration (IC₅₀) values for each compound. (C) Serum-free cell survival of U2OS (48 h) or SW620 (24 h) cells treated with DMSO vehicle or each compound (50 μM). Data in (C) are presented as mean ± sem. Significance is expressed as *p<0.001 compared to vehicle-treated controls.

CHAPTER THREE: Elucidating the Scope of Degradability of Cysteine-Reactive Covalent Degraders

Introduction:

Historically, drug discovery efforts have focused on utilizing medicinal chemistry and chemical genetics approaches to target a known disease-state protein of interest (POI). However, there exist many proteins that cannot be inhibited, and are thereby deemed “undruggable.” While genetic approaches such as CRISPR have been developed to overcome this challenge, the long-term effects of such treatments are unknown, creating an unmet need to develop chemical tools that can target and drug currently “undruggable” proteins of interest. Recently one such chemical tool, pioneered by Craig Crews termed proteolysis targeting chimera (PROTAC), has allowed for the induction of ubiquitination and degradation of a POI by tethering a POI-specific ligand to an E3 ligase recruiter, ultimately allowing previously undruggable proteins to be “treated” by degrading them. Common E3 recruiters used in this approach include lenalidomide and thalidomide, which recruit the E3 cereblon (CRBN), and the Von-Hippel Lindau (VHL) ligand, which recruits the E3 VHL. These recruiters have been successfully linked to a variety of highly-selective and potent small molecules and led to the successful degradation of targets such as GSTP1 (CC-885), wild-type and C481S BTK (MT-802), Ikaros and Aiolos (CC-220), and BRD4 (MZ1 and dBET1).^{36–40}

Despite these successes, most if not all of these degraders have been developed from inhibitors with known targets, functions, and selectivities. Interestingly, it has been shown that the extent of target degradation does not necessarily correlate to the degrader’s affinity for the target.⁴¹ Therefore, there is an unmet need to elucidate which proteins are capable of being degraded, and how ligand potency and selectivity effects degradability. Here, we sought to elucidate the scope of the “degradome” by coupling the synthesis of cysteine-reactive covalent degraders with chemoproteomics technologies. By profiling the targets of degraders with various cysteine-reactive promiscuous warheads, linker compositions, and E3 recruiters, we initially aimed to map which proteins could be covalently modified with a bifunctional degrader. Furthermore, we wanted to identify which, if any, of these protein targets could be proteasomally degraded in order to help further the understanding of how these degraders can be applied to drug the undruggable proteome.

Design and Synthesis of Cysteine-Reactive Covalent Degraders

To determine the scope of degradability for cysteine-reactive scaffolds, we designed our cysteine-reactive covalent degraders based on two promiscuous cysteine-reactive warheads, iodoacetamide and chloroacetamide. We chose to incorporate lenalidomide and thalidomide, which recruit the E3 ligase cereblon (CRBN), as these recruiters were the easiest to synthesize (0-3 steps). For the final component of degrader design, linker composition and length, we focused on alkyl linkers, with both a direct functionalization on the aromatic ring of these IMiD ligands, as well as an ether linkage. Linker composition has been shown to play a critical role in the efficacy of degraders, as they contribute to cell penetrance and the ability to form a ternary complex with the E3 ligase.^{41–43} We also sought to synthesize cysteine-reactive “molecular glue” derivatives of lenalidomide, as it has been shown that simple chemical modifications on

lenalidomide can still enable CRBN-dependent recruitment and proteasomal degradation.^{36,38} The library of cysteine-reactive degraders can be found in Figure 3-1 and all synthetic methods can be found in Appendix 3-1.

IsoTOP-ABPP Mapping of Cysteine-Reactive Covalent Degradation Protein Targets

We then performed isoTOP-ABPP analysis to determine the proteins that were being covalently modified by the various degraders we synthesized. We dosed 231MFP cells with either vehicle or 20 μ M degrader *in situ*, harvested the cells, then competed either vehicle or degrader treated proteomes with a broad cysteine-reactive probe, iodoacetamide-alkyne (IAyne), followed by appending probe-labeled proteins with a biotin-azide tag bearing a TEV protease recognition site and an isotopically light (for vehicle-treated) or heavy (for fragment-treated) tag via copper catalyzed azide-alkyne cycloaddition (CuAAC).^{11,26} We then combined control and treated proteomes in a 1:1 ratio, enriched probe-labeled proteins with streptavidin, and digested proteomes with trypsin. Streptavidin-enriched probe-modified tryptic peptides were released by TEV protease digestion for subsequent quantitative proteomic analysis. Through these studies we identified the top targets of the six degraders we made (Figure 3-1 and Fig. 3-2 (A), Appendix 3-2).

Validation of Covalent Degradation Protein Targets

In order to determine whether the proteins targeted by each degrader were, in fact, being degraded in a proteasome-dependent manner, we dosed 231MFP breast cancer cells *in situ* with either vehicle or the proteasome inhibitor Bortezomib (1 μ M), then co-treated with either vehicle or degrader (20 μ M). Out of all the protein targets validated in this manner, only ACAT1 was degraded in a proteasome-dependent manner by AMR 2-181. (Figure 3-2 B, Appendix 3-3).

We then wanted to confirm that proteasome-dependent degradation of ACAT1 was CRBN dependent. We therefore treated both A549 cells and knock-out CRBN A549 cells with either vehicle or AMR 2-181 and analyzed by western blot. Unfortunately, there was no rescue of ACAT1 degradation in the KO CRBN line, indicating that ACAT1 is being degraded through a different E3 ligase. (Fig. 3-2 C).

Conclusions

Through the synthesis of these seven different degraders, we only determined one protein, ACAT1, that was able to be degraded in a proteasome-dependent manner. However, this degradation was not CRBN dependent. These cysteine-reactive degraders encompassed two different E3 recruiters, a variety of linker lengths, and two distinct cysteine-reactive covalent warheads; however, we were still unable to produce functional degraders. This compiled data is evidence to suggest that the promiscuity of the warhead impedes the ability of the degrader to function. Current successful degraders use nanomolar-potent ligands that are highly selective for their targets.

Therefore, we are currently working on determining more potent and selective cysteine-reactive ligands, which we can then derivatize into degraders.

Materials and Methods

Materials

IAyne was obtained from CHESS GmbH. Heavy and light TEV-biotin tags were synthesized per previously described methods.^{4,25} Bortezomib was purchased from Cell Signaling (#2204S). All antibodies used for degrader validation can be found in Appendix 3-5. MZ1 and dBET1 were purchased from Cayman Chemicals (21622 and 18044).

Cell Culture

The 231MFP cells were obtained from Professor Benjamin Cravatt and were generated from explanted tumor xenografts of MDA-MB-231 cells. These cells have been previously characterized as a more aggressive variant of the MDA-MB-231 cells and are grown in L15 with 10% FBS.^{44,45} A549 cells were purchased from ATCC and were grown in F12K with 10% FBS. A549 KO CRBN cell lines were obtained from Novartis.

IsoTOP-ABPP Analysis

IsoTOP-ABPP analyses were performed as previously described.^{14,25,26} For competitive IsoTOP-ABPP, 231MFP cells incubated *in situ* with either DMSO vehicle or degrader (50 μ M or 20 μ M) for 3 hours, harvested, and then labeled with IAyne (100 μ M) for 1 h at room temperature. They were subsequently treated with isotopically light (control) or heavy (treated) TEV-biotin (100 μ M) and CuAAC was performed as previously described.^{14,25} Proteins were precipitated over one hour and pelleted by centrifugation at 6500 x *g*. Proteins were washed 3 times with cold methanol then denatured and resolubilized by heating in 1.2% SDS/PBS to 85°C for 5 min. Insoluble components were precipitated by centrifugation at 6500 x *g* and soluble proteome was diluted in 5 ml PBS, for a final concentration of 0.2% SDS. Labeled proteins were bound to streptavidin-agarose beads (170 μ L resuspended beads/sample, Thermo Pierce) while rotating overnight at 4°C. Bead-linked proteins were enriched by washing three times each in PBS and water, then resuspended in 6 M urea/PBS (Sigma-Aldrich) and reduced in dithiothreitol (1 mM, Sigma-Aldrich), alkylated with iodoacetamide (18 mM, Sigma-Aldrich), then washed and resuspended in 2 M urea/PBS with 1 mM calcium chloride and trypsinized overnight with 0.5 μ g/ μ l sequencing grade trypsin (Promega). Tryptic peptides were discarded and beads were washed three times each in PBS and water, then washed with one wash of TEV buffer containing 1 μ M DTT. TEV-biotin tag was digested for 24 hours in TEV buffer containing 1 μ M DTT and 5 μ L Ac-TEV protease at 29°C. Peptides were diluted in water and acidified with final concentration of 5% formic acid (1.2 M, Spectrum).

Peptides from all proteomic experiments were pressure-loaded onto a 250 mm inner diameter fused silica capillary tubing packed with 4 cm of Aqua C18 reverse-phase resin (Phenomenex # 04A-4299) which was previously equilibrated on an Agilent 600 series HPLC using gradient from 100% buffer A to 100% buffer B over 10 min, followed

by a 5 min wash with 100% buffer B and a 5 min wash with 100% buffer A. The samples were then attached using a MicroTee PEEK 360 μm fitting (Thermo Fisher Scientific #p-888) to a 13 cm laser pulled column packed with 10 cm Aqua C18 reverse-phase resin and 3 cm of strong-cation exchange resin for isoTOP-ABPP studies. Samples were analyzed using an Q Exactive Plus mass spectrometer (Thermo Fisher Scientific) using a 5-step Multidimensional Protein Identification Technology (MudPIT) program, using 0%, 25%, 50%, 80%, and 100% salt bumps of 500 mM aqueous ammonium acetate and using a gradient of 5-55% buffer B in buffer A (buffer A: 95:5 water:acetonitrile, 0.1% formic acid; buffer B 80:20 acetonitrile:water, 0.1 % formic acid). Data was collected in data-dependent acquisition mode with dynamic exclusion enabled (60 s). One full MS (MS1) scan (400-1800 m/z) was followed by 15 MS2 scans (ITMS) of the nth most abundant ions. Heated capillary temperature was set to 200°C and the nanospray voltage was set to 2.75 kV.

Data was extracted in the form of MS1 and MS2 files using Raw Extractor 1.9.9.2 (Scripps Research Institute) and searched against the Uniprot mouse database using ProLuCID search methodology in IP2 v.3 (Integrated Proteomics Applications, Inc).²² Cysteine residues were searched with a static modification for carboxyamino-methylation (+57.02146) and up to two differential modifications for methionine oxidation and either the light or heavy TEV tags (+464.28596 or +470.29977, respectively). Peptides were required to have at least one tryptic end and to contain the TEV modification. ProLUCID data was filtered through DTASelect to achieve a peptide false-positive rate below 1%.

Bortezomib western blot studies

231MFP cells were plated into 6cm dishes and allowed to grow to confluency. Cells were either treated with vehicle (DMSO), or 1 μM bortezomib (2mL total volume of media) for 30 minutes, followed by treatment with either vehicle, or 20 μM degrader. AMR 2-181, AMR 3-80, AMR 3-89, CA-Lenalidomide, and YP 2-23 were treated for three hours, comparable to isoTOP incubation time. AMR 3-164 and AMR 3-170 were incubated with degrader for 12 hours. Media was then aspirated, cells were washed 2x with DPBS, and then scraped into 1.5mL microcentrifuge tubes and stored at -80°C. Cells were lysed in PBS plus protease inhibitor (Thermo Fisher cat #A32955) using a probe sonicator (5 seconds, 10% power). Samples (9 μg protein per well) were run on 4-20% TGX MIDI gels (BioRad) and analyzed by western blot. CRBN and VHL activity in 231MFP cells were determined using commercially available MZ1 and dBET1(Appendix 3-4). The blots were imaged on a LI-COR Odyssey imager and analyzed using Image-J.

A549 KO CRBN western Blots

Cells were plated in 6cm dishes and allowed to grow to confluency. Cells were treated with either vehicle (DMSO) or AMR 2-181 (20 μM) for 12 hours and then harvested. Cells were lysed in PBS plus protease inhibitor (Thermo Fisher cat #A32955) using a probe sonicator (5 seconds, 10% power). Samples (9 μg protein per well) were run on

4-20% TGX MIDI gels (BioRad) and analyzed by western blot. The blots were imaged on a LI-COR Odyssey imager and analyzed using Image-J.

Figures

isoTOP-ABPP analysis of Cysteine-Reactive Covalent Degraders in 231MFP breast cancer cells

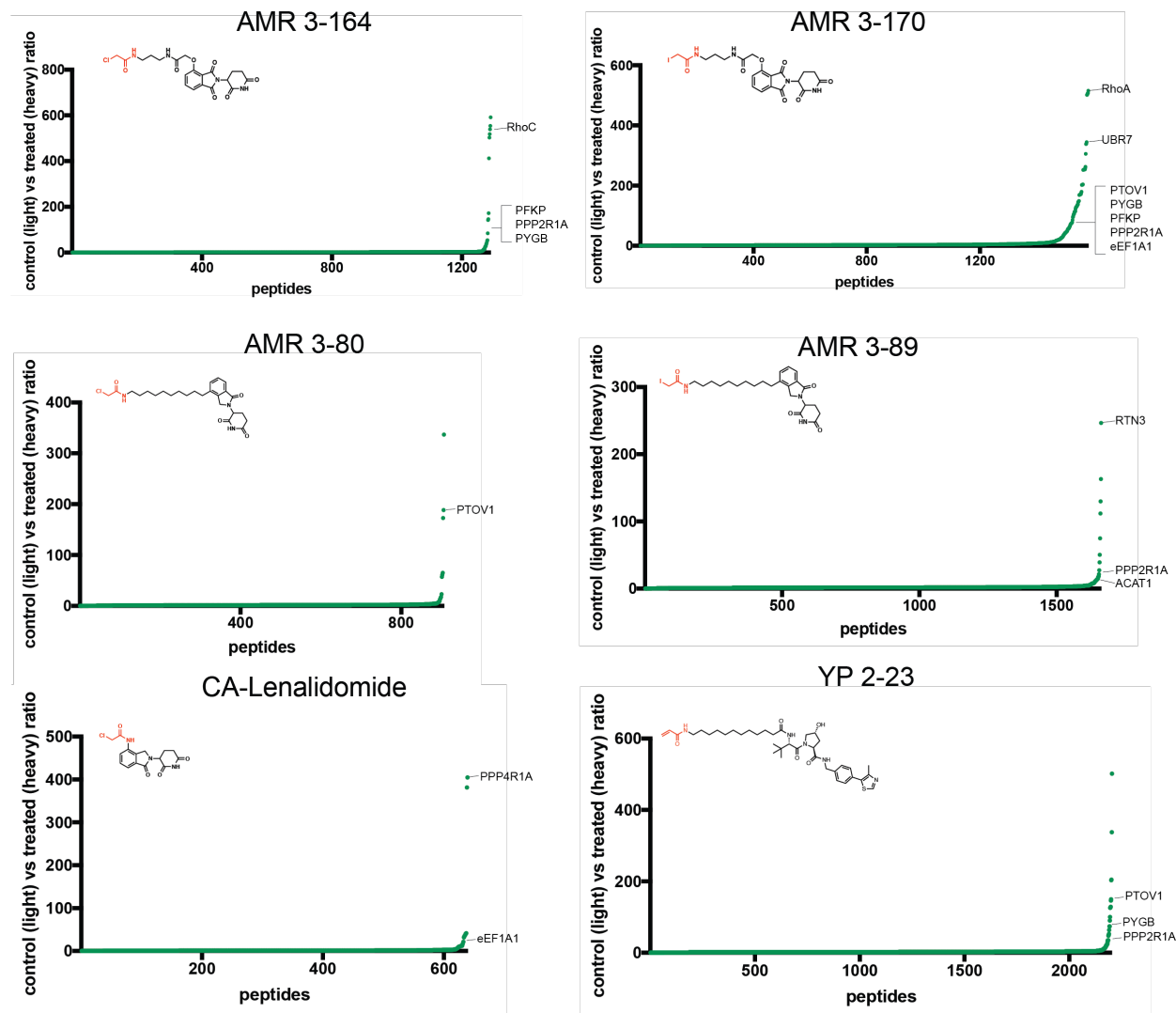
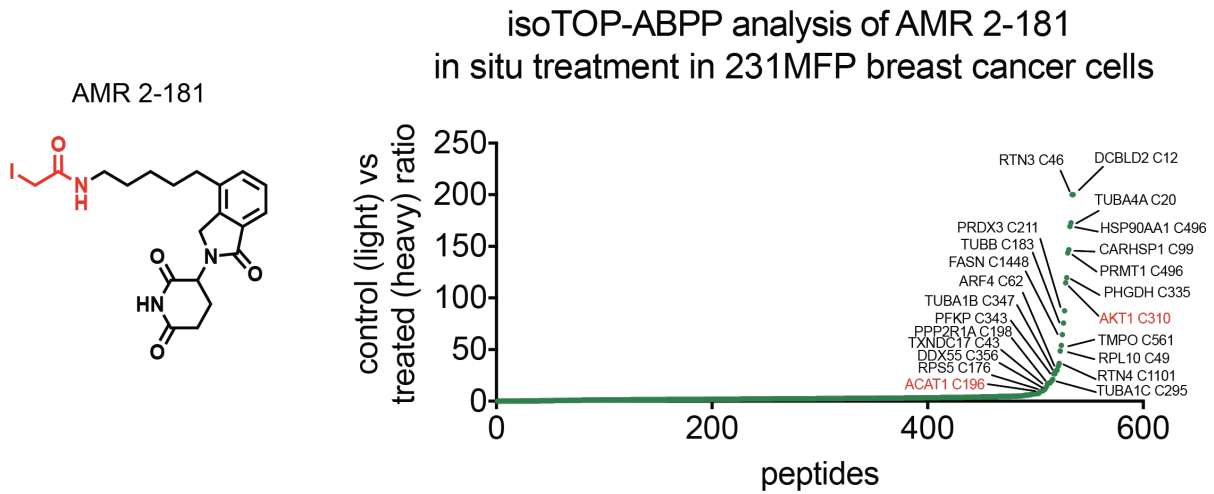


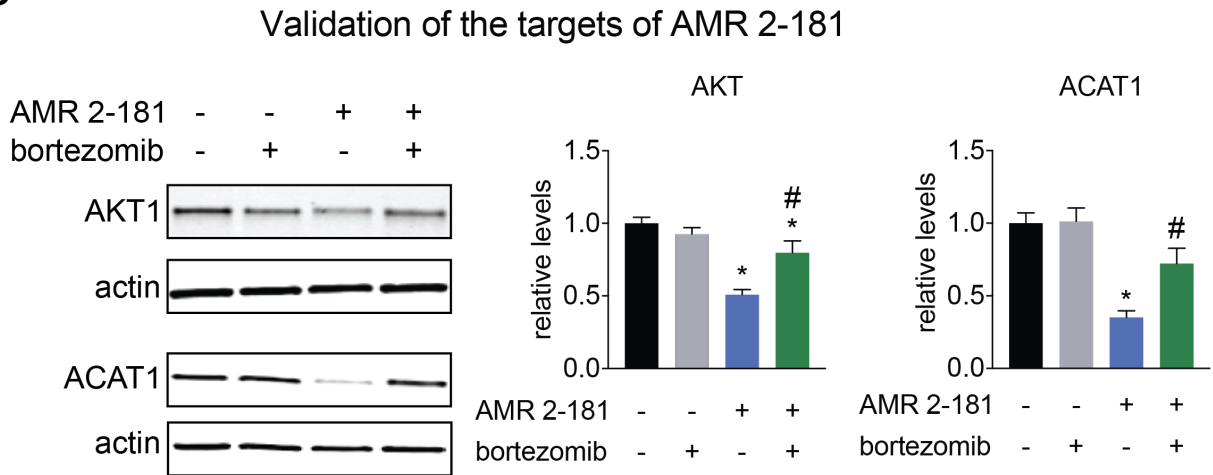
Figure 3-1. isoTOP-ABPP analyses of cysteine-reactive covalent degraders.

IsoTOP-ABPP analysis of cysteine-reactive covalent degraders in 231MFP triple negative breast cancer cells. 231MFP cells were dosed *in situ* with either vehicle or 20 μ M degrader for three hours and harvested, prior to labelling with IAYne and isoTOP-ABPP analysis. Shown are mean light to heavy ratios for those probe-modified peptides identified in at least 2 out of 3 replicates. Raw data can be found in Appendix 3-2.

A



B



C

AMR 2-181 induced ACAT1 Degradation is Not CRBN Dependent



Figure 3-2. Characterization of AMR 2-181 (A) IsoTOP-ABPP analysis of AMR 2-181 in 231MFP breast cancer cells. 231MFP cells were treated *in situ* with DMSO or ARM 2-181 (50 μ M) prior to labeling proteomes with Iayne and isoTOP-ABPP analysis. Shown are mean light to heavy ratios for those probe-modified peptides identified in at least 2 out of 3 biological replicates. **(B)** Western blot validation of AMR 2-181 induced

degradation of ACAT1 in 231MFP lysate. 231MFP cells were pre-treated with the proteasome inhibitor bortezomib, and then chased with either vehicle or AMR 2-181. **(C)** Western blot analyses of ACAT1 degradation in 231MFPs either competed with MLN4924 (a NEDD8 specific inhibitor), or in KO CRBN lines, both showing that the degradation of ACAT1 is not CRBN dependent, despite being proteasome-dependent. For the MLN4924 experiment, 231MFP cells were treated *in situ* with 1 μ M MLN4924 for 4 hours, and then chased with 50 μ M AMR 2-181 for 3 hours. In the WT vs KO CRBN experiments, the prospective cell lines were treated *in situ* with 50 μ M AMR 2-181 for 12 hours.

Conclusions

Final remarks

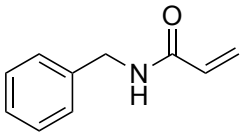
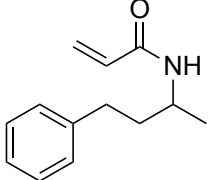
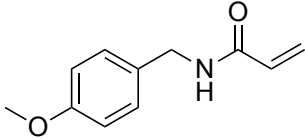
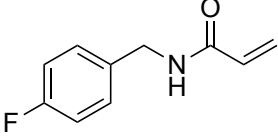
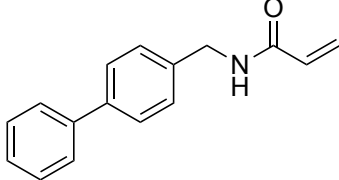
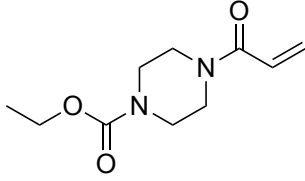
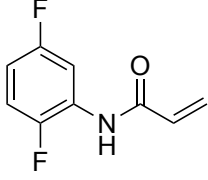
Historically, the approach towards therapeutic discovery, particularly with cancer, has been split between two major fields in science. Biologists have focused on determining disease mechanism and trajectory, to ultimately discover crucial disease-state drivers that can subsequently be drugged. Chemists have focused on synthesizing libraries of compounds, extracting natural products, and using structure-activity relationships to create improved or novel therapies. As the field of chemical biology has grown, it is now more possible than ever to utilize the strengths of these two approaches to create a more efficient trajectory towards drug discovery.

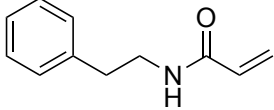
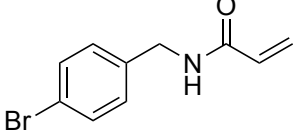
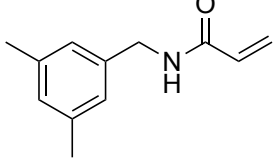
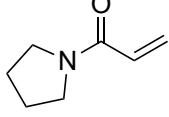
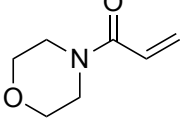
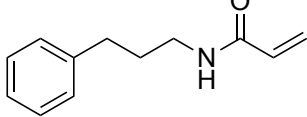
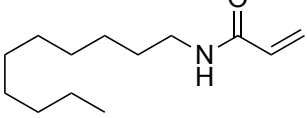
In this work, I have shown how coupling chemical and biological approaches can lead to novel anti-cancer covalent ligands, as well as protein targets. Chemoproteomics, in particular, makes it possible to determine the targets of various lead compounds, while also mapping reactive hotspots within complex proteomes. It is incredibly challenging to start with a protein of interest, and complete multiple iterations of medicinal chemistry to determine a lead compound that is potent and selective enough to be a clinical candidate. Often times, a lead compound is discovered through an *in vitro* assay, only to be found to be promiscuous *in vivo*. By using a combined chemical genetics and chemoproteomics approach, I have been able to efficiently determine a lead small-molecule ligand, and its protein targets, thereby creating a foundation for therapeutic discovery efforts.

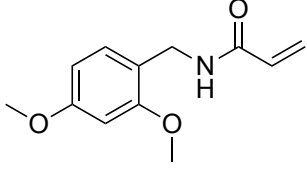
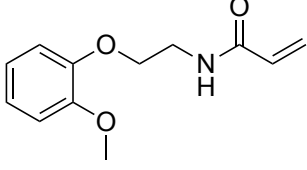
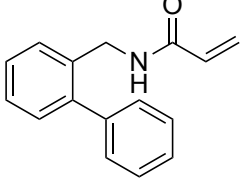
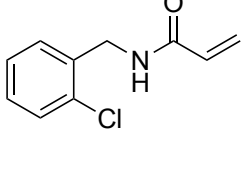
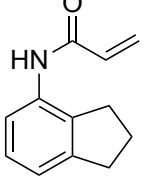
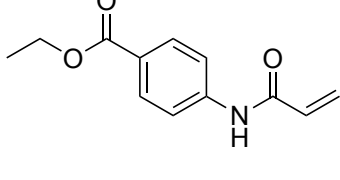
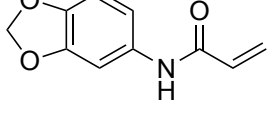
This work highlights the potential for drug discovery efforts in the field of cancer in the years to come. We can determine new anti-cancer ligands, and their targets, by screening small molecule libraries in cancer cell lines of interest, and for those proteins that are still unable to be targeted and inhibited using this approach, we can find lead ligands that covalently modify a protein of interest and send it off for proteasomal degradation. In this work alone, I have been able to expand upon what is considered to be the “druggable” proteome by discovering novel protein targets in pancreatic, colorectal, and triple-negative breast cancer. These combined approaches provide strong evidence to suggest that over the next few decades we will be able to develop targeted, covalently-acting therapeutics towards previously undruggable targets, allowing for great advancements in cancer therapy.

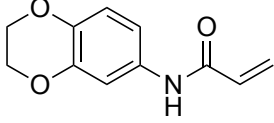
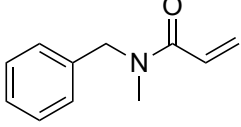
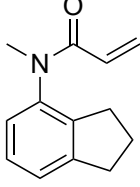
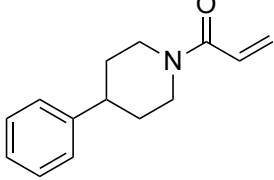
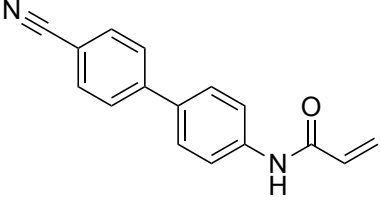
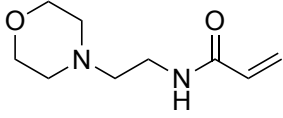
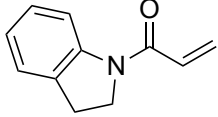
Appendices

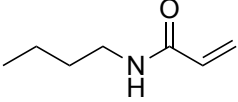
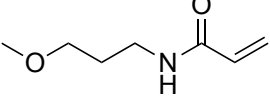
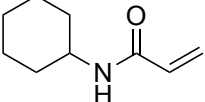
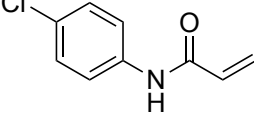
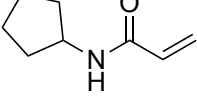
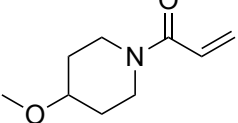
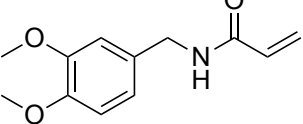
Appendix 1-1. Structures of fragment-based covalent ligands screened in pancreatic cancer cells. Structures of the chloroacetamides and acrylamides screened in pancreatic cancer cells.

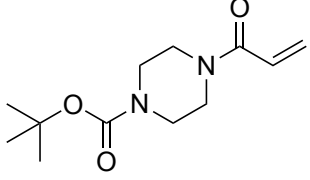
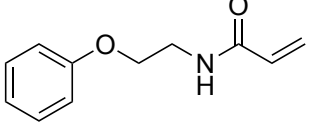
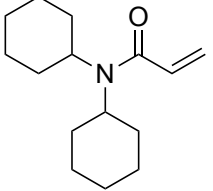
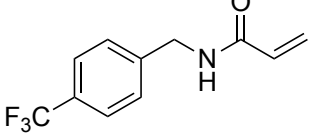
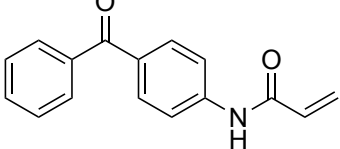
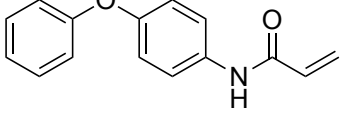
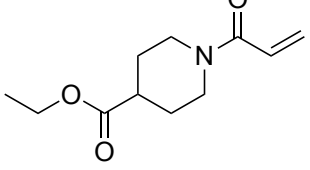
Compound name	Compound structure
DKM 2-31	
DKM 2-32	
DKM 2-33	
DKM 2-34	
DKM 2-37	
DKM 2-39	
DKM 2-40	

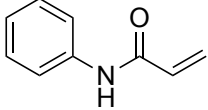
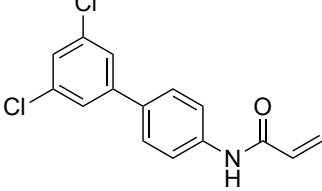
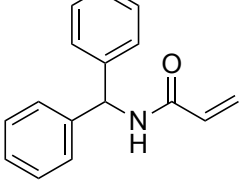
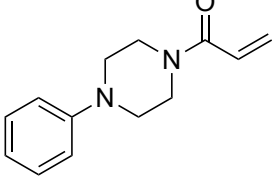
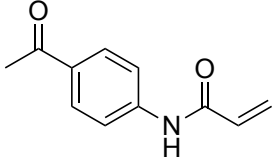
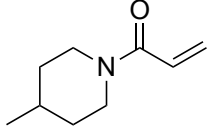
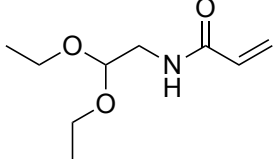
DKM 2-42	 <chem>C=CC(=O)NCCc1ccccc1</chem>
DKM 2-43	 <chem>C=CC(=O)NCCc1ccc(Br)cc1</chem>
DKM 2-47	 <chem>C=CC(=O)NCCc1cc(C)cc(C)c1</chem>
DKM 2-48	 <chem>C=CC(=O)N1CCCN1</chem>
DKM 2-49	 <chem>C=CC(=O)N1CCOCC1</chem>
DKM 2-50	 <chem>C=CC(=O)NCCCc1ccccc1</chem>
TRH 1-12	 <chem>C=CC(=O)NCCCCCC</chem>

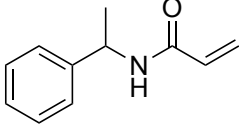
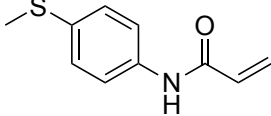
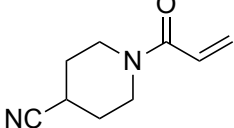
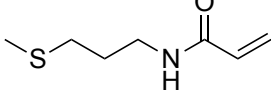
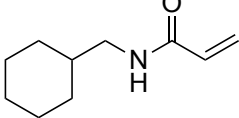
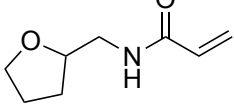
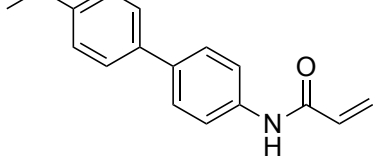
TRH 1-13	
DKM 2-58	
DKM 2-59	
DKM 2-60	
DKM 2-84	
DKM 2-85	
DKM 2-86	

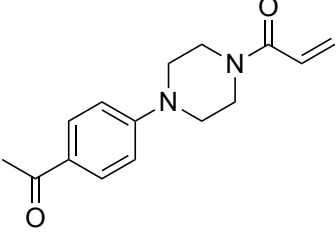
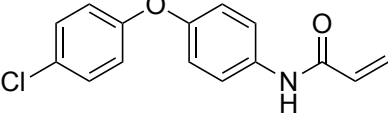
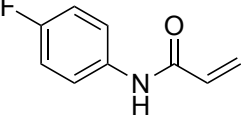
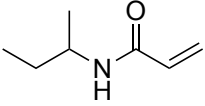
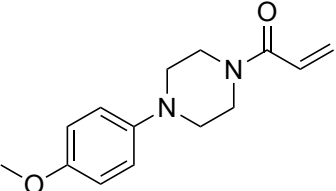
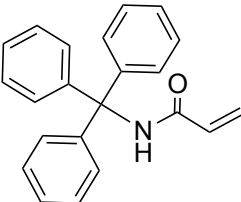
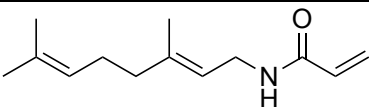
DKM 2-87	
DKM 2-95	 <p>(Two rotamers in equal amounts)</p>
TRH 1-115	
DKM 2-97	
DKM 2-98	
DKM 2-100	
DKM 2-101	

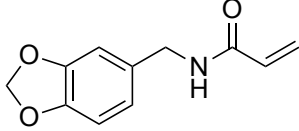
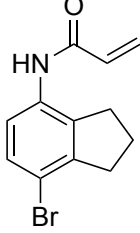
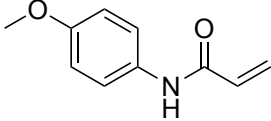
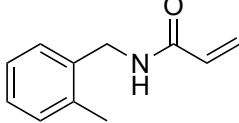
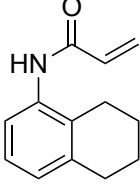
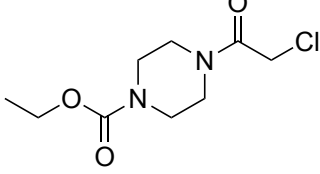
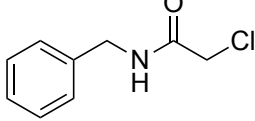
DKM 2-102	
DKM 2-103	
DKM 2-106	
DKM 2-107	
DKM 2-108	
DKM 2-109	
DKM 2-110	

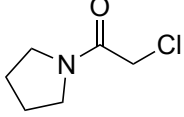
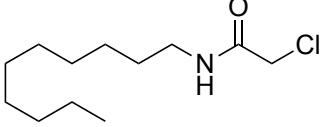
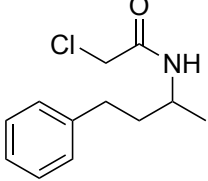
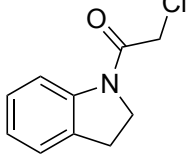
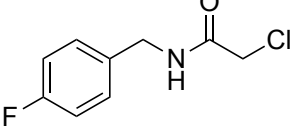
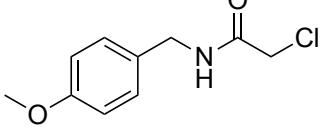
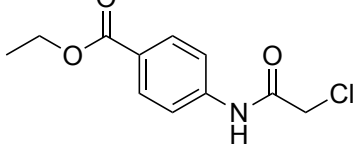
DKM 2-111	
DKM 2-113	
DKM 2-114	
DKM 2-116	
DKM 2-117	
DKM 2-119	
DKM 2-120	

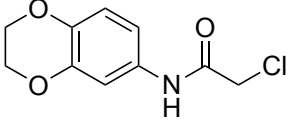
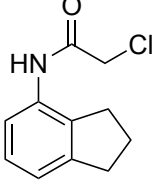
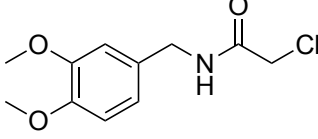
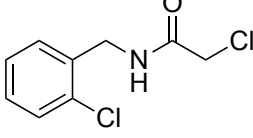
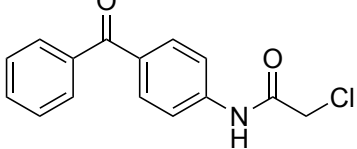
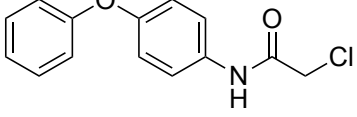
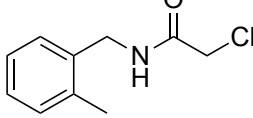
TRH 1-19	
DKM 3-3	
DKM 3-4	
DKM 3-5	
DKM 3-7	
DKM 3-8	
DKM 3-9	

TRH 1-20	
DKM 3-10	
DKM 3-11	
DKM 3-12	
DKM 3-13	
DKM 3-15	
DKM 3-16	

DKM 3-29	 <p>Chemical structure of N-(4-acetylphenyl)azepan-2-ylideneacetamide. It features a seven-membered azepane ring with a double bond to the nitrogen atom, which is also bonded to a vinyl group. The nitrogen is further substituted with a 4-acetylphenyl group.</p>
DKM 3-30	 <p>Chemical structure of N-(4-(4-chlorophenoxy)phenyl)acetamide. It consists of a central benzene ring with an acetamido group (-NHCOCH=CH2) at the para position and a 4-chlorophenoxy group (-O-C6H4-Cl) at the other para position.</p>
DKM 3-31	 <p>Chemical structure of N-(4-fluorophenyl)acetamide. It features a benzene ring with a fluorine atom at the para position and an acetamido group (-NHCOCH=CH2) at the other para position.</p>
DKM 3-32	 <p>Chemical structure of N-isobutylacetamide. It shows a four-carbon chain with a methyl branch on the second carbon and an acetamido group (-NHCOCH=CH2) attached to the first carbon.</p>
DKM 3-36	 <p>Chemical structure of N-(4-methoxyphenyl)azepan-2-ylideneacetamide. It features a seven-membered azepane ring with a double bond to the nitrogen atom, which is also bonded to a vinyl group. The nitrogen is further substituted with a 4-methoxyphenyl group.</p>
DKM 3-41	 <p>Chemical structure of N-(1,1-diphenylethyl)acetamide. It consists of a central carbon atom bonded to two phenyl rings and a 1-acetamidoethyl group (-CH(NHCOCH=CH2)CH3).</p>
DKM 3-42	 <p>Chemical structure of N-(2,6-dimethylhept-2-enyl)acetamide. It features a seven-carbon chain with methyl groups at the 2 and 6 positions and an acetamido group (-NHCOCH=CH2) at the 1 position.</p>

DKM 3-43	
TRH 1-65	
TRH 1-32	
TRH 1-54	
TRH 1-56	
DKM 2-52	
DKM 2-67	

DKM 2-71	 <chem>CC(=O)N1CCCC1Cl</chem>
DKM 2-72	 <chem>CCCCCCNC(=O)CCl</chem>
DKM 2-76	 <chem>CC(C)CN(C(=O)CCl)Cc1ccccc1</chem>
DKM 2-79	 <chem>CC(=O)N1CCc2ccccc12Cl</chem>
DKM 2-80	 <chem>CC(=O)NCCc1ccc(F)cc1</chem>
DKM 2-83	 <chem>CC(=O)NCCc1ccc(OC)cc1</chem>
TRH 1-17	 <chem>CCOC(=O)c1ccc(NCC(=O)CCl)cc1</chem>

DKM 2-90	
DKM 2-91	
DKM 2-93	
DKM 2-94	
DKM 3-22	
TRH 1-23	
TRH 1-55	

Appendix 1-2. Screening of cysteine-reactive covalent ligand libraries in pancreatic cancer cells. A library of cysteine-reactive acrylamides and chloroacetamides were screened in PaCa2 pancreatic cancer cells or HPDE pancreatic ductal epithelial cells (50 μ M) to assess 48 h serum-free cell survival. Cell survival was assessed using Hoescht staining. Data are presented as mean \pm sem, n=3/group.

Survival in PaCa2 cells	Avg.	SEM	P-value
DKM 2-72	0.024147989	0.010311115	4.15784E-06
TRH 1-23	0.034461136	0.002766263	4.24987E-06
DKM 2-67	0.047381504	0.012843671	8.95189E-05
DKM 3-30	0.047381504	0.009078897	0.000119956
DKM 2-79	0.055535012	0.015112576	5.29239E-06
DKM 3-22	0.055648803	0.011553816	5.09733E-06
DKM 2-85	0.059294722	0.007241402	9.45861E-05
TRH 1-17	0.061812269	0.007510234	5.13295E-06
DKM 2-90	0.064705564	0.015859024	5.65607E-06
DKM2-94	0.073344547	0.019694863	6.30287E-06
DKM 2-71	0.076326365	0.036522656	4.57184E-06
DKM 2-76	0.088468859	0.014593956	6.47611E-06
DKM 3-8	0.097446917	0.168923829	0.089249143
TRH 1-65	0.09894189	0.022830853	1.15772E-07
DKM 2-52	0.099614187	0.032006805	0.000138566
DKM 3-29	0.099614187	0.075876119	0.06120199
DKM 2-119	0.134593239	0.006095709	9.65301E-05
DKM 3-10	0.134593239	0.048900606	0.000206554
DKM 2-101	0.141692039	0.023260391	0.000169491
DKM2-93	0.161584221	0.034425185	1.51832E-05
DKM 2-80	0.168217789	0.006407042	1.03153E-05
DKM 2-98	0.17452956	0.020668642	0.00020727
DKM 2-40	0.178681486	0.013122819	0.000205733
DKM 2-91	0.204320524	0.047465864	2.9194E-05
TRH 1-55	0.231655119	0.031010207	0.44774006
TRH 1-12	0.238976344	0.096280534	0.000864895
DKM 2-83	0.282213672	0.10140427	0.000300109
DKM 2-107	0.326742643	0.016888617	0.000617807
DKM 2-114	0.758789344	0.113872111	0.117265026
DKM 2-59	0.764209523	0.339904059	0.413678606
DKM 3-5	0.800046426	0.203428443	0.293156075
DKM 2-84	0.829524053	0.270873831	0.473119332
TRH 1-56	0.893896177	0.035413855	0.105542953

DKM 2-86	0.961533789	0.020648398	0.722989969
DKM 3-13	0.982210651	0.112309246	0.031299004
DKM 3-43	0.982210651	0.331847494	0.948289822
DKM 3-16	1.081363565	0.116849398	0.184311621
TRH 1-32	1.081363565	0.069712659	0.503567319
DKM 2-95	1.097971838	0.402504041	0.763618055
TRH 1-54	1.13390685	0.047017975	0.076517379
DKM 2-113	1.179498072	0.122427047	0.2348765
DKM 3-41	1.191263494	0.109954411	0.192066606
DKM 2-87	1.24904002	0.037302813	0.057074484
DKM 3-7	1.267697118	0.017820316	0.000173092
DKM 3-12	1.269172667	0.153217184	0.063921265
DKM 3-42	1.269172667	0.018630528	0.040381187
DKM 2-47	1.273079654	0.090565236	0.06636543
DKM 3-31	1.279997722	0.061106024	0.04614
DKM 3-32	1.285642809	0.084138857	0.053915601
TRH 1-115	1.286668569	0.040262886	0.005656365
DKM 3-4	1.289150146	0.234541626	0.589246764
DKM 2-97	1.30175991	0.195544777	0.136771363
DKM 2-111	1.30391416	0.146230848	0.085777773
DKM 2-108	1.313084652	0.188647317	0.118004207
TRH 1-13	1.330757254	0.244987209	0.159747621
DKM 2-106	1.335253066	0.066521294	0.025367575
TRH 1-19	1.34390348	0.250869581	0.377944559
DKM 2-50	1.349558531	0.062396401	0.020631651
DKM 3-3	1.36697333	0.127849475	0.001453658
DKM 2-60	1.370811364	0.064856007	0.016695909
DKM 2-110	1.371708753	0.118500539	0.032331865
DKM 2-103	1.392393256	0.04143839	0.010403439
DKM 2-102	1.404069858	0.099726725	0.01824822
DKM 2-43	1.413327894	0.225165755	0.076831
DKM 2-67	1.453193235	0.100773629	0.011458197
DKM 2-37	1.454171278	0.129605832	0.017321685
DKM 2-32	1.472250857	0.15215071	0.020453715
DKM 2-33	1.475205287	0.101258408	0.009380086
DKM 3-15	1.492114683	0.251008666	0.217677816
DKM 2-117	1.511600772	0.060303823	0.000204469
TRH 1-20	1.511600772	0.059704727	0.003708067
DKM 2-120	1.518982811	0.066424527	0.002155125

DKM 3-11	1.518982811	0.041438561	0.002824597
DKM 2-42	1.528852665	0.026588322	0.002281072
DKM 2-48	1.537306049	0.169847823	0.015607959
DKM 2-116	1.562200895	0.112756277	0.997414179
DKM 3-9	1.562200895	0.084831582	0.003337624
DKM 2-31	1.563062808	0.120650021	0.005894675
DKM 2-100	1.570243349	0.016646177	0.001474898
DKM 2-34	1.598093118	0.161461081	0.008665721
DKM 3-36	1.619751255	0.080206924	0.001914972
DKM 2-109	1.630629645	0.012622067	0.000859944
DKM 2-49	1.647444531	0.10890687	0.002470125
DKM 2-58	1.661071692	0.053064449	0.000934145
DKM 2-39	1.684050873	0.100823403	0.001628434

Proliferation in PaCa2 cells	Avg.	SEM	P-value
TRH 1-17	0.003869479	0.001826783	0.00022857
DKM 2-79	0.01349436	0.009686471	0.000243164
DKM 2-90	0.026817107	0.010207258	0.000262348
TRH 1-23	0.031193279	0.023978891	0.000280548
DKM 3-22	0.046211044	0.00809429	0.000292043
DKM 2-52	0.053694959	0.00388144	0.000298791
DKM 3-29	0.053694959	0.072552309	0.300238908
DKM2-94	0.061760391	0.015339492	0.000324505
DKM 2-72	0.064960385	0.030099872	0.000350845
DKM 2-67	0.075491716	0.017555156	0.000348557
DKM 3-30	0.075491716	0.223491331	0.035456922
DKM 2-91	0.081064404	0.026013113	0.000378034
DKM 2-83	0.098447494	0.015415674	0.000403459
DKM2-93	0.111923118	0.046014885	0.000514461
DKM 2-76	0.132433258	0.038850329	0.000554417
DKM 2-71	0.13992642	0.009662223	1.85526E-05
TRH 1-55	0.150426225	0.016914933	0.592934139
TRH 1-65	0.163301068	0.025354549	2.8661E-05
DKM 2-80	0.165172624	0.062162595	0.000823171
DKM 2-85	0.196556975	0.014584626	0.000736339
DKM 2-119	0.215672291	0.119574632	0.007092599
DKM 3-10	0.215672291	0.026121629	0.000871076
DKM 2-98	0.223980524	0.017161017	0.000891122
DKM 2-101	0.250213578	0.008195365	0.001046535

DKM 2-40	0.335206151	0.099049076	0.003873975
DKM 3-8	0.441462205	0.137765987	0.022070289
DKM 2-107	0.549995549	0.026442383	0.012688807
DKM 3-5	0.661882759	0.212443776	0.055627129
DKM 2-84	0.667816518	0.080111007	0.054844717
DKM 2-114	0.692263791	0.085685776	0.072404887
TRH 1-56	0.709046837	0.078292532	0.046096187
TRH 1-115	0.794123109	0.026399914	0.160530288
DKM 3-7	0.844238338	0.028403355	0.001321124
DKM 3-36	0.874933821	0.135234521	0.466021257
TRH 1-12	0.915439713	0.031774614	0.536119517
DKM 2-87	0.924959828	0.183272048	0.698107494
DKM 2-116	0.958818452	0.155345559	0.791168677
DKM 3-9	0.958818452	0.131365732	0.804279063
DKM 3-41	1.050382654	0.09150591	0.737197853
DKM 3-12	1.101556213	0.145559738	0.1710424
DKM 3-42	1.101556213	0.069216974	0.484953268
DKM 2-67	1.10960167	0.04440319	0.434393646
DKM 2-43	1.112664114	0.037005347	0.418198985
DKM 2-50	1.125131359	0.187650055	0.527638877
DKM 3-16	1.125794572	0.06349936	0.046241566
TRH 1-32	1.125794572	0.176696988	0.512842432
DKM 2-86	1.128352068	0.092986432	0.406538035
DKM 3-3	1.15072098	0.17826598	0.030981806
DKM 2-33	1.182968569	0.171698361	0.3444305
DKM 2-109	1.198091562	0.247835103	0.404560064
DKM 3-4	1.202724019	0.274302532	0.795096245
DKM 3-13	1.20330296	0.102022122	0.344936545
DKM 3-43	1.20330296	0.041682144	0.169962218
DKM 2-120	1.207073639	0.186662038	0.043886672
DKM 3-11	1.207073639	0.222540635	0.353868597
DKM 2-59	1.214981186	0.064721087	0.163202955
DKM 2-113	1.218784993	0.100522386	0.185955049
DKM 2-103	1.242892427	0.157123608	0.205303874
DKM 2-111	1.245378514	0.091965457	0.138072827
TRH 1-19	1.257209847	0.179054146	0.275634856
TRH 1-13	1.260295812	0.234943345	0.268201534
DKM 2-97	1.274508981	0.113001005	0.119509664
DKM 2-95	1.280389534	0.118765033	0.117754921

TRH 1-54	1.293937592	0.041172338	0.022157112
DKM 2-108	1.297890043	0.211927671	0.187081996
DKM 2-48	1.298310904	0.197571422	0.171391176
DKM 3-32	1.316774466	0.121007723	0.086274729
DKM 2-47	1.317628138	0.081391718	0.063814061
DKM 2-34	1.318204328	0.220821112	0.171839521
DKM 3-15	1.341776441	0.091523858	0.206969381
DKM 2-37	1.34263471	0.197209017	0.124390651
DKM 2-117	1.358221069	0.038740705	0.0011109
TRH 1-20	1.358221069	0.102892841	0.0511213
DKM 2-110	1.388023455	0.228391608	0.113467704
DKM 2-102	1.394446629	0.050866562	0.024458279
DKM 2-106	1.425933698	0.153423354	0.045449954
DKM 2-32	1.448523907	0.10155049	0.022407667
DKM 3-31	1.477111709	0.025333253	0.009809318
DKM 2-58	1.498567729	0.061934175	0.010043721
DKM 2-39	1.516976086	0.072535283	0.009372295
DKM 2-31	1.52545749	0.082394774	0.00957523
DKM 2-49	1.541386155	0.083835116	0.008506999
DKM 2-100	1.549208745	0.113488743	0.011020214
DKM 2-60	1.647862071	0.093166742	0.004092906
DKM 2-42	1.648042878	0.137676265	0.007079659

Counter survival in HPDE cells	Average	SEM	p-value
TRH 1-12	0.070113275	0.00234777	1.22607E-05
DKM 2-76	0.112323596	0.008996462	7.98102E-06
DKM 2-101	0.136165062	0.00402684	1.67213E-05
DKM 2-72	0.144207553	0.029380663	2.80108E-05
DKM 3-30	0.156697939	0.015591317	1.39847E-05
DKM 2-40	0.162957438	0.024310859	4.01196E-05
DKM 2-71	0.169612281	0.035867225	0.000355895
DKM 2-85	0.173857065	0.022774935	0.000269951
TRH 1-65	0.178523747	0.006964383	7.93802E-06
DKM 2-91	0.190173227	0.017786472	1.81636E-05
DKM 2-94	0.22063418	0.044797339	0.000127014
DKM 2-52	0.245132687	0.047071292	0.000167419
DKM 2-98	0.290412123	0.012701193	4.53959E-05
TRH 1-56	0.305305503	0.022452393	5.94893E-05
DKM 2-79	0.321051293	0.016944313	2.88239E-05

TRH 1-23	0.347158752	0.065382024	0.000766572
DKM 3-10	0.383268059	0.056905123	0.000769078
DKM 2-90	0.402048793	0.017807868	5.05366E-05
DKM 2-119	0.410619774	0.075494279	0.001888143
TRH 1-17	0.480815051	0.022484301	0.000122431
DKM 3-7	0.498974986	0.083611507	0.005012292
DKM 2-78	0.499465025	0.016555746	0.000113455
DKM 3-22	0.520750258	0.085891615	0.005996048
DKM 2-80	0.521675992	0.062759691	0.002281647
DKM 2-107	0.536208204	0.043648351	0.001164202
DKM 2-93	0.588819639	0.067841099	0.005063651
DKM 2-83	0.651579912	0.041726378	0.002352022
DKM 2-67	0.750930184	0.079464049	0.071734248

counterproliferation in HPDE cells	Average	SEM	p-value
DKM 2-72	0.052384367	0.004544266	8.33707E-05
TRH 1-65	0.076897447	0.015662067	0.000104943
DKM 2-94	0.077958541	0.009815086	2.69021E-06
DKM 2-91	0.088516689	0.007356617	2.41615E-06
DKM 2-76	0.090436298	0.009130699	2.71319E-06
DKM 2-90	0.105988325	0.004906781	0.000105125
DKM 2-85	0.120093523	0.01125448	2.0031E-07
DKM 2-79	0.122051705	0.005813123	0.000113554
DKM 2-52	0.168894319	0.008716564	0.001831019
DKM 2-71	0.183357526	0.02163063	3.12906E-06
TRH 1-23	0.207202515	0.013515795	0.000184552
DKM 3-30	0.211109437	0.034397083	0.002600226
DKM 3-10	0.231030498	0.07607668	0.004887214
TRH 1-12	0.237555674	0.054603501	0.003743423
DKM 2-119	0.26018883	0.045743265	0.003707388
DKM 2-78	0.263777924	0.029077399	3.49986E-05
DKM 2-101	0.267951262	0.042189914	0.003760119
DKM 3-22	0.270994526	0.026873405	0.00033799
TRH 1-17	0.306663544	0.006357176	0.00028801
DKM 2-40	0.325313611	0.030463974	0.004540411
DKM 2-98	0.379305294	0.018745374	0.005682592
TRH 1-56	0.396599451	0.219580863	0.087414823
DKM 2-67	0.46783777	0.008847442	6.47931E-07
DKM 2-83	0.485680605	0.02767691	0.000127868

DKM 2-80	0.498915638	0.014828488	4.50173E-05
DKM 2-93	0.59461421	0.024717465	0.000250487
DKM 2-107	0.60453357	0.137191047	0.090388141
DKM 3-7	0.689813412	0.224533933	0.317721148

Appendix 1-3. IsoTOP-ABPP Data for DKM 2-93 Target Identification and Cysteine Profiling in Primary Human Pancreatic Tumors. IsoTOP-ABPP analysis of DKM2-93 in PaCa2 cells. PaCa2 proteomes were pre-treated with DMSO or DKM2-93 (50 μ M) prior to labeling proteomes with IAYne and appending a biotin- azide handle bearing a TEV protease recognition site and an isotopically light (for DMSO- treated) and heavy (for DKM2-93-treated) tag. DMSO and DKM2-93-treated proteomes were then mixed in a 1:1 ratio and subsequently avidin-enriched, tryptically digested, and then probe-modified tryptic peptides were released by TEV protease and analyzed using quantitative proteomic approaches. Peptide ratios shown are average ratios for those probe-modified peptides that were identified in at least 2 out of 3 biological replicates. A light to heavy ratio of 1 indicates that the probe-labeled cysteine-bearing peptide was not bound by DKM2-93, whereas a ratio >3 indicates bound sites. If a top hit showing >3 ratio showed more than 1 ratio greater than 3, the average of the top 2 ratios was kept. If a top hit showing >3 ratio had only one out of 3 or 1 out of 2 ratios that showed >3 , the ratio was replaced with the lowest of the ratios.

Peptide	Modified Residue	Avg. area ratio	Uniprot	seen in
MC*DFTEdqTAEFK	C2	0.08637728	G3V1V0 P01768 P60660 F8W1R7	3
NVC*TEAGMFAIR		0.28292	A0A087X2I1 P62333	2
EDPTVSALLTSEKDWQGFLELYLQNSPEAC*DYGL	C209	0.487704379	P78417	2
TC*FETFPDK	C326	0.5021	P11216	2
AQVPGSSPGLLSLSLNQQPAAPeC*K	C290	0.587489659	Q86W42	2
LC*EPEVLNLEETYSPPFR	C261 C177 C224	0.606296379	H0YJA2 Q6PJT7 G3V5I6	2
STFFNVLtNSQASAEtFPFC*TIDPNESR		0.652400848	J3KQ32 Q9NTK5 C9JTK6	3
MAGIFDVNTC*YGSQPSPQLIR	C428	0.652451683	Q9BTX1	2
VTAVIPC*FPYAR	C91 C24	0.659703514	B1ALA9 P60891 P21108 B1ALA7 P11908 D3YTJ7 A6NMS2 A0A0B4J207 P11908	2
TIYAGNALC*TVK	C155	0.716926978	P13804 P13804 H0YLU7	2
DAANC*WtSLLESEYAADPWVQDQMQR		0.745525	Q8WVJ2	2
DYPLELFMAQC*YGNISDLGK	C149 C178 C156	0.775262145	F5GXU9 P12694 M0R0C8 F5H5P2 P12694	2
NMSVHLSPC*FR	C116	0.79000535	P62280	2
YVEPIEDVPC*GNIVGLVGDQFLVK	C466	0.79297448	P13639	3
GNHEC*ASINR	C136 C83 C126 C127	0.820531601	F8VYE8 P62136 P62140 P36873 F8W0W8	2
C*LEELVFGDVENDEdALLR	C90	0.83266	Q9Y5J1	2
IDILINCAAGNFLC*PAGALSfNAFK	C129 C108	0.840840731	Q9NUI1 Q4VXZ8 A0A0J9YY83	2
ISLGLPVGAVINC*ADNTGAK		0.845595628	P62829	3
VGVDYEGGGC*R	C680	0.855333678	Q02809 Q02809	4
MVSTPIGGLSYVQGC*TK	C64	0.8696	Q96CM8 D6RF87 Q96CM8 Q96CM8 E9PF16	2
C*SDSDGLAPPQHLIR	C143 C182	0.875891788	P04637 J3KP33 E7EQX7 A0A0U1RQC9	2
EC*EGIVPVPLAEK		0.890377054	P82932	3
GC*LLYGPPGTGK		0.900145	A0A087X2I1 P62333	2
EIGLWFHPEELVDYTSC*AQNWIYE	C170	0.90165	P15531 P15531	2

SAC*SLESNLEGLAGVLEADLPNYK	C44	0.95429105	Q09161	2
C*ASQSGMTAYGTR	C164 C175 C112	0.95465308 9	Q99439 Q99439 B4DDF4 B4DUT8 A0A087X1X5	2
VQVSDPESTVAVAFTPTIPHC*SMATLIGLSIK	C93	0.9787861	J3KS95 Q9Y3D0 H3BNV7	2
LSGSSLC*SGSWSADGFLR	C39	0.98155464 8	H0YG38 F5H578 O75400 O75400	2
SEFYANEAC*KR	C219 C381	0.99361405	Q86TX2 A0A087X0W7 P49753 P49753 A0A087WT95	2
VWAVLPSSPEAC*GAASLQER	C170	0.99686375 8	Q5T440	2
IAVYSC*PFDGMITETK	C225	1.00944414 5	P50990 P50990	3
KLEC*LPPEPSPDDPESVK	C349	1.01807165 9	Q96CS3	2
NWMSQLQANAYC*ENPDIVLIGNK		1.02223061 1	O00194	2
APPWVPAMGFTLAPSLGC*FVGSR	C19	1.02453260 4	B1AH87 P30536	3
SEGGFIWAC*K		1.0309	O75874	2
AYGSMC*AK		1.033795	P49207	2
LLLC*GGAPLSATTQR	C450	1.03534	O95573	2
LATTAC*TLGDGEAVGADSGTSSAVSLK	C13 C63	1.04725021 3	O94901 O94901 O94901 E9PHI4	2
LQGINC*GPDFTPSFANLGR	C575 C466 C662	1.04851310 7	Q04637 E9PGM1 E7EUU4 E7EX73	2
AVQDLC*GWR	C428	1.051895	Q9P258	2
HEADFPFC*R		1.05812427 9	P18031	4
AEAGEAGQATAEAEAC*HR	C258	1.05887221 3	O95671 O95671 O95671	2
ALANVNIGSLIC*NVGAGGPAPAAGAAPAGGPAPSTAAAPAEK		1.06003516 1	P05386 P05386	3
TPC*SSLLPLNHAATSGK	C307 C367 C397	1.06197313 4	B8ZZZ7 Q9NUQ6 A0A0A0MSG5 Q9NUQ6 Q9NUQ6 Q9NUQ6	2
TATAVAHC*K	C8	1.0627219	M0R1M5	2
LGEWVGLC*K		1.08379	P25398	2
ISELSGC*TPDPR		1.08453409 2	C9JVN9 Q9H9P8 Q9H9P8	2
VGSFC*LSEAGAGSDSFALK	C73	1.086775	P45954 P45954	2
TIAEC*LADELINAAC	C172 C102	1.1018	P46782 M0R0R2 M0R0F0 M0QZN2	2
EITAIESSVPC*QLLESVLQELK	C704	1.10306625 6	O75694 O75694	2
QPAIMPGQSYGLEDCSC*SYKDFSESR		1.10388319 7	M0QXS5 P14866	3
FDPTQFQDC*IIQGLTETGTDLEAVAK	C35 C39	1.11033336 8	C9JWF5 C9JV57 Q7L1Q6 C9IZ80 C9J188 C9JFN4 Q7L1Q6 Q7L1Q6 Q7L1Q6	3
IYGGSVTGATC*K	C218	1.11239318 8	P60174 P60174	2
LVIVGDGAC*GK	C16	1.11765628 2	Q5JR08 C9JX21 C9JNR4 P61586 P08134 E9PQH6	2
VIGSGC*NLDSAR	C192	1.11901342 4	P00338 P00338 P00338	2
TYAIC*GAIR	C56	1.12011304 9	Q8WVC2 Q9BYK1 P63220	2
ALNALC*DGLIDELNQALK		1.12212646 6	P30084	3
SWC*PDCVQAEPPVR	C43	1.12290199 8	I3L0K2 I3L3M7 Q9BRA2	3
VGVGTC*GIADKPMQYQDTSK	C214	1.12316318 1	O75940	2
LSLDGQNIYNAC*CTLR	C250 C281	1.12338	A0A0U1RRM4 P26599 P26599 P26599	2
MLSC*AGADR	C105	1.125925	Q96L21 X1WI28 P27635	2
LC*PNSTGAEIR		1.12626378 2	P35998	3
HALQNSDC*TELDGSGSQGELS NR		1.12952225 9	Q96LW7	2

YADLTEDQLPSC*ESLKDTIAR		1.12968405 6	P18669	2
TGC*TFPEKPDFH	C318 C336	1.12974	P55263 P55263 P55263	2
VSLDPELEEALTSASDTELC*DLAAILGMHNLITNTK	C132	1.13381611 2	Q9NYL9	2
IAVHC*TVR	C72	1.13466110 6	P62913 Q5VVC8 P62913	2
SGQGAFGNMC*R	C96	1.13658597 3	P36578	4
LPAEPPALLQTHPPC*R		1.13749349 6	Q92667 Q92667	2
IFVGNVSAAC*TSQELR	C90	1.13752689	Q96PK6 F8WDX3 B8ZZ74 A0A0A6YYI9 A0A0A0MSL8	3
KAQC*PIVER	C66	1.13790013 9	P46782 MOR0R2 MOR0F0	2
IAVAAQNC*YK	C67	1.14229750 3	P60174 P60174	2
TTSSANNPNLMYQDEC*DRR	C505 C586 C507	1.14305482 4	Q92841 H3BLZ8 Q92841 Q92841 Q92841	3
NGYDYGC*R	C80	1.14337252 4	S4R3G0 Q13242	2
ILQDDIESLMPIVYTPVGLAC*SQYGHIFR	C120	1.14452298 4	P23368 P23368	2
LGYLTC*PSNLGTGLR	C283 C347 C34	1.149945	P17540 H0YJG0 P12532 P12277 H0YJK0 P12532	2
VTEAPC*YPGAPSTEASQGTGPQEPTSAR		1.15060714 4	P40222	2
IISNASC*TTNCLAPLAK	C152	1.15064627 4	P04406	4
VC*NVAPIAGETK	C188 C336	1.15207802 7	H0YG10 Q13823	2
GC*AFVFTTR	C149 C150 C176 C177	1.15361875 3	Q92879 Q92879 Q92879 Q92879 Q92879 G5EA30 Q92879	2
EITSLDTENIDEILNADVALVNFYADWC*R	C58	1.15506167 1	Q9BS26	2
FSPNSSNPIIVSC*GWDK	C75	1.15778	H0Y8W2 H0YAM7 P63244	2
AVAILC*NHQR		1.16257538 2	P11387	3
IC*PVEFNPNFVAR		1.16340087 4	Q9UI30 Q9UI30 F5GX77	2
GLIAAIC*AGPTALLAHEIGFGSK	C86	1.16440973 2	Q99497 K7ELW0 K7EN27	2
YVAAAFPSAC*GK	C318	1.16465797 7	H0YM31 Q16822	3
IDC*FSEVPTSVFGEK		1.16728250 3	O00567	2
GSC*STEVEKETQEK	C69	1.16735134 6	O75348	3
LTTPTYGDLNHLVSATMSGVTC*LR	C239 C221	1.16911166 8	Q13885 P68371 Q9BVA1 P04350 Q5JP53	3
AAQDLC*EEALR	C698	1.16948759 5	O94906 O94906	2
ASDHGWVC*DQR	C309	1.17103707 5	Q9HC36	3
TASISSPSEGTPTVGSYGC*TPQSLPK	C787	1.17366514	Q6PKG0 Q6PKG0	3
EADQKEQFSQGSNSNC*LETSLAEIFPLGK	C102 C161	1.17953614 9	Q9NQ88 A0A0U1RQD1	2
GNTAEGC*VHETQEK	C942 C862	1.18051464 5	Q9BQG0 I3L1L3 Q9BQG0	2
LDINLLDNVNC*LYHGEGAQQR		1.18081538 9	O14980	3
YGAVDPLLALLAVPDMSSLAC*GYLR	C223	1.18379590 8	P52292	2
C*ESAFLSK	C36	1.18704	C9JNW5 C9JXB8 P83731	2
LVAFC*PFASSQVALENANAVSEGVVHEDLR		1.18768441 2	O00567	3
VTDGALVVDCVSGVC*VQTETVLR	C136	1.18970238	P13639	2
LDTNSDGLDFSEFLNLIGGLAMAC*HDSFLK	C91	1.19009103	P31949	2
YTIWVSATASDAAPLQYLAPYSGC*SMGEYFR	C244	1.19153478 4	P25705 P25705 P25705	3
NC*NDFQYESK	C99 C112	1.19513678 1	A2IDB2 Q04917	2

LIDFLEC*GK	C234	1.195715	P17844 J3KTA4	2
DTQTSITDSC*AVYR	C100	1.1972697	Q9Y5M8	2
VDEFPLC*GHMVSDEYEQLSSEALEAAR	C49	1.19886211 7	X1W128 P27635	3
EEFASTC*PDDEEIELAYEQVAK		1.19934186 8	O00299	2
SQDVAVSPQQQC*SK	C137 C24	1.20025723 1	H3BTD6 Q96F86 H3BQ37 H3BPW9	2
FMLVLASNLPEQFDC*AINSR	C415 C461	1.20343156 8	Q5T9A4 Q5T9A4	2
VELC*SFSGYK	C6	1.20787543 7	C9JNW5 C9JXB8 P83731	2
VVMALGDYMGASCHAC*IGGTNVR		1.20931	P60842	2
NMMAAC*DPR	C285 C650 C303 C266	1.21072202 1	Q13509 P07437 P68371 A0A0B4J269 K7ESM5 Q5JP53 Q9BUF5	4
NQSFC*PTVNLDKLWTLVSEQTR	C70	1.21128625 1	P46776 E9PLL6 E9PJD9	4
EQSDFC*PWYIGLFPFIPYLDNLPNFNR	C282 C413	1.21141	H3BR35 P15170 P15170 P15170	2
WLSDEC*NAVVNFLSR	C345	1.21267371 3	O75521 A0A0C4DGA2 O75521	2
DLC*FSPGLMEASHVVNDVNEAQLVFR		1.21310278 9	Q9BXW7	2
SGDAAIVEMVPGKPMC*VESFSQYPLGR		1.21637	Q05639	2
AEPQC*TSLAWSADGQTLFAGYTDNLVR		1.21856980 7	P63244	3
GNFTLPEVAEC*FDEITYVELQKEEAQK	C629	1.22007431 2	Q00839 Q00839	3
SIQFVDC*PTGFK	C347	1.22139016 7	P68366 P68363 P68366	3
STLTDSLVC*K	C41	1.22248180 4	P13639	4
GHSSDSPAIC*R	C31	1.22498814 3	Q5JTH9 Q5JTH9 Q5JTH9	2
AGAIAPC*EVTVAQNTGLGPEK	C119	1.22653972 7	F8VVS0 P05388 F8VU65 G3V210 F8VRK7 Q8NHV5 P05388 F8VQY6	2
VTEDENDEPIEIPSEDDGTVLLSTVTAQFPGAC*GLR	C39	1.22771590 3	A0A087X260 A0A087WYY0 B1AKP7 Q13148 G3V162	2
C*LLIHPNPESALNEEAGR	C147	1.23115759 8	Q16763 K7EPJ1	2
ASC*LYGQLPK		1.23799297 6	P09211	2
INISEGNC*PER	C54	1.2399377	Q15366 Q15366 Q15366 Q15366 Q15365	3
SPWLAGNELTVADVVLWSVLQQIGGC*SVTVPANVQR		1.23997389 8	F8W950	2
NIC*FTVWDVGGQDK		1.24088666 7	P84085 C9J1Z8	2
C*AGPTPEAELQALAR	C52	1.24125989	Q15050	2
EC*LPLIIFLR		1.24298	P62701	3
SGAELALDYLC*R	C107 C75 C92	1.24299523 4	H7C0T1 Q9BRJ6 C9JQV0 H7C2R9	3
TIQFVDC*PTGFK	C347 C417	1.24476545 3	Q9BQE3 Q9NY65 F5H5D3 C9J2C0 Q71U36 Q9NY65	3
SC*SGVEFSTSGSNTDTGK	C36	1.24482481 1	A0A0A0MR02 P45880	4
SILSPGGSC*GPIK	C215	1.24654643 4	P78347 P78347 P78347 P78347 P78347	3
ETTEAAC*R	C164	1.24671967 8	Q9Y2Q3 E9PFN5 Q9Y2Q3 Q9Y2Q3 Q9Y2Q3	3
AQEPLVDGC*SGGGR	C43	1.24787658 7	E7ER77 Q7Z2K6	2
IIPTLEEGLQLPSPTATSQLPLESDAVEC*LNYQHYK		1.24892808 4	P61978 P61978	3
LTISYC*R	C82	1.24928	J3KS15 Q14197	2
VLTC*TDLEQGNPFFLDFENAQPTSEKEIYNQVNVVVK	C10	1.25322956 6	Q9NUQ9 E5RJE1 E5RGI7 E5RI16 E5RJL8 E5RFS4 E5RIR8 E5RHU5 E5RK81 E5RK61 E5RH75	2
YC*VRPNSGIIDPGSTVTVSMLQPFYDPNEK	C60	1.25475265 4	Q9P0L0 Q9P0L0	2

ELEVLMLC*NK	C91 C109	1.25723179 8	P62910 F8W727 D3YTB1	3
GLYDGPVC*EVSVTPK	C468	1.25815768 4	Q16555 Q16555	2
ATC*APQHGAPGPGPADASK	C2503 C2516 C2535	1.26229837 8	P21333 A0A087WWY3 Q60FE5 P21333 Q5HY54	2
DLNYC*FSGMSDHR	C267	1.26654979 3	P31943 G8JLB6 P55795 E9PCY7	4
YLAEVAC*GDDRK	C134	1.26921173 5	P27348	3
EAVFPFQPGSVAEVC*ITFDQANLTVK		1.26961378 5		3
SVPTTQC*LDNSK	C226	1.27379894 4	A0A087WV66 P46013	2
AVC*MLSNTTAIAEAWAR	C376	1.27419231 3	P68366 P68363 Q9NY65 C9J2C0 Q71U36 Q9NY65 P68366	3
APPTAC*YAGAAPAPSQVK	C225	1.27474306 4	P17676 P17676 P17676	2
GFAGVC*GFGGPGYGETVATGPYR	C920	1.27559379 7	Q9NZB2 Q9NZB2	3
LNISFPATGC*QK		1.27654265 5	P62753	3
ELEAVC*QDVLSLLDNYLIK	C97	1.27789868 8	P61981	3
AAAGEDYKADC*PPGNPAPTSNHGPDATEAEEDFVDPWTVQTSS AK	C62	1.27989293 1	P23381	3
AATGEEVSAEDLGGADLHC*R	C229	1.28124238	Q9HCC0 Q9HCC0	4
LC*VQNSPQEAR	C150	1.28499312	P33240 P33240 E7EWR4 E9PID8 A0A0A0MT56	3
FIC*TTSAIQNR		1.28554239 9	P53396 P53396	3
LEGDLTGPSVGVEVPDVELEC*PDAK		1.28623429 7	Q09666	2
AKC*ELSSSVQTDINLPLYLTMSSGPK		1.28641821 1	P38646	3
EDAILYPSC*YDANAGLFEALLTPEDAVLSDELNHASIIDGIR		1.28718246 6	O75600 O75600	2
NLSDLIDLVPSC*EDLLSVDQPLK	C65 C24	1.28826385 6	P47756 P47756 B1AK88 B1AK87 B1AK85	2
DSEDNPQTLFSAATC*PHWVFNVAK	C310	1.290415	Q9NR30 Q9NR30	2
LDVGNFWSWGSEC*CTR		1.29077216	P62241	2
TLLC*GYPNVGK	C127	1.29782666 7	Q9BZE4 Q9BZE4 Q9BZE4 Q5T3R7	2
AVEEYSC*EFGSAK	C56	1.29874134 9	F8VVM2 Q00325	2
AGEGYALDSESC*MEK	C272 C255 C133	1.30195934 8	B3KXD6 O00541 O00541 B5MCF9	2
C*PFTGNVSIR	C60	1.30242822 9	P62280	4
HELQANC*YEEVK	C139 C177	1.30254148 9	E9PK25 G3V1A4 P23528 E9PP50	4
CPEALFQPSFLGMESC*GIHETTFSIMK		1.30456149 6	P60709	3
GC*TATLGNFAK	C131	1.30679742 2	P15880 H0YEN5 E9PQD7	3
NTPSFLIAC*NK	C179	1.31311972 6	Q9Y5M8	4
VAC*ITEQVLTLVNK		1.313435	P04843	2
GLC*AIAQAESLR		1.31363411	P23396	4
EVLC*PESQSPNGVR	C137	1.31384153 4	Q14684 Q14684	4
GSDELFTC*VTNGPFIMSSNSASAANGNSDK		1.31384240 4	P26599	4
LLQC*DPSSASQF		1.31447362 2	P84074 P37235	4
NWYVQPSC*ATSGDGLYEGLTWLTSNYK	C155	1.31459881 4	P62330	3
ADEASELAC*PTPK	C2202	1.31767400 2	P49327 A0A0U1RQF0	3
VIGIEC*SSISDYAVK	C101	1.31800361 2	Q99873	4
GTPEQPQC*GFSNAVVQILR	C67	1.31928662 3	Q86SX6	4

IIPGPMC*QGDFTR	C62	1.32012627 1	P62937	3
SGDAAIVDMVPGKPMC*VESFSDYPPLGR	C390	1.32110314 7	P68104 P68104	4
AC*DLPAAVHFPDTER	C181	1.32885498	A0A087WXU3 A0FGR8 A0FGR8 H7BX1 A0FGR8	3
C*ILTTVDPTGVIDR	C272	1.33003	Q969Z3	2
ISAFGYLEC*SAK	C159	1.33082559	Q5JR08 P08134 E9PQH6	2
AYHEQLTVAEITNAC*FEPANQMVK	C295 C365	1.33748043 4	Q9BQE3 F5H5D3	2
VQENSAYIC*SR	C585	1.33784192	Q9Y3T9	3
DVQIGDIVTVGEC*RPLSK	C131	1.33790622 5	P62280	2
LC*GSGFQSVNGCQEICVK	C92	1.33955807 9	A0A0B4J2A4 P42765	2
VC*NFLASQVPFPSR	C205	1.34186482	Q99714	4
LTVVDTPGYGDAINC*R	C122 C121 C111 C83	1.34186863	C9J2Q4 C9J938 Q15019 C9JB25 C9IZU3 Q15019 Q15019 H7C310 C9JQJ4 C9IY94 B5MCX3	2
C*PQVEEIVQSGQK	C146	1.34361333 3	Q9BVP2 Q9BVP2	2
IC*EPGYSPYKQDK	C211	1.34388099 8	P07858	2
NESC*SENYTTDFIYQLYSEEGK		1.34436992 8	Q01813	3
LDEC*EEAFQGTK	C103	1.34541591 7	P61289 B3KQ25 P61289 K7ESG5 P61289	2
TLTSC*FLSCVVCVEGIVTK	C164	1.34568199 3	J3KQ69 P25205 P25205	2
AAVEEGIVLGGGC*ALLR		1.34591932 2	P10809	4
GGPVC*SEAGGSPSPGGDPGEGPR		1.34690540 8	Q5U4P2	2
VFIMDSC*DELIPEYLNfir	C366	1.35133367	P08238	2
SVANVIQAGC*PVPEYIK	C52 C536	1.35188319 7	Q9Y2R4 A0A087X121	2
PMC*IPPSYADLGK		1.35231045 7	A0A0A0MR02 P45880	3
VPAFEGDDGFC*VFESNAIAYVSNEELR	C68	1.35668796 7	P26641 P26641	2
VDFENDC*VEADDVEGK	C101	1.35709156	O14929 O14929	4
EAEETNGGAQIQLPADC*GISSATEKPSDK		1.35815910 4	Q9UJM3	2
QAVLGAGLPSTPC*TTINK	C119	1.35863147 8	P24752	3
LMWLFGC*PLLLDDVAR		1.35933233 1	O15067	2
IINDNATYC*R		1.35936778	O00567	3
IHMGC*AENTAK		1.36005675 2	P24752	2
LVPATQC*GSLIGK	C109	1.36591029 4	Q15365	3
TQNLPC*QLISR		1.36783048 9	P37268	3
YFAGNLAGGAAGATSLC*FVYPLDFAR		1.36794757 1	P12236	2
GVPGAIVNVSSQC*SQR	C137 C82 C111	1.36934091 6	Q7Z4W1 J3QS36 J3KSZ5 J3QL34 J3KRZ4 J3KS22	3
IALTC*PFEPKPK	C253	1.36987112 8	E9PCA1 B7ZAR1 P48643 P48643 E7ENZ3	2
VC*ISILHAPGDDPMGYESSAER		1.37062959 6	P60604 P60604	2
IISDNLYC*K		1.37441854 8	Q9Y2X3	2
VMTIPYQMPASSPVIC*AGGQDR	C194	1.37470428 6	Q15365	3
DLSYC*LSGMYDHR		1.37542935 8	P52597	3
LTDHSC*PEDEAQ	C177	1.37834554 4	Q13185	3

SGEEDFESLASQFSDC*SSAK	C113	1.37856097 7	K7EN45 K7EMU7 Q13526	3
AC*ASPSAQVEGSPVAGSDGSPAVK	C97	1.37872356	Q9UFC0 F8WDB4	2
QVQSLTC*EVDALKGTNESLER	C328	1.37919080 5	P08670	2
TDC*SPIQFESAWALTNIASGTSEQTK	C133	1.38013727 1	P52292	2
AFQYVETHGEVC*PANWTPDSPTIKPSAASK		1.38311948 9	P30048 P30048	3
AYHEQLSVAEITNAC*FEPANQMVK	C295	1.38512409 6	P68366 P68363 Q71U36 P68366	3
RQDSDLVQC*GVTSPSSAEATGK		1.38571665 8	Q9HC52	2
DSGAASEQATAAPNPC*SSSSR	C671	1.38616	Q9BU23 Q9BU23 Q9BU23	2
TWYVQATC*ATQGTGLYEGLDWLSNELSK		1.38656301 7	P18085	3
VAC*AEEWQESR	C87	1.38875507 2	O75663 O75663	4
LC*YVALDFEQEMATAASSSSLEK		1.38927205 9	P60709 P63261 Q6S8J3	3
LGGSLIVAFEGC*PV	C146	1.39087111 6	P60981 P60981	3
IKADPDGPEAQAEAC*SGER	C18	1.39269813 8	D6RCB9 D6RC52 Q9NX24	4
FQSAAGALQEASEAYLVGLFEDTNLC*AIHAK		1.39599997 2	K7EK07 P84243	2
EVIAVSCGPAQC*QETIR	C162	1.40116410 7	P38117 P38117	2
TPC*NAGTFSQPEK	C129	1.40214666 7	O43684 J3QT28 O43684 J3QSX4	2
SYC*AEIAHNVSSK	C114 C96	1.40227073 6	P62910 F8W727 D3YTB1	3
NC*IVLIDSTPYR		1.40265237 3	P62241	4
VLGLGLGC*LR		1.40645598 1	Q9BRJ7 K7EIN2	2
GEETPVIVGSALC*ALEGRDPGLK		1.40780438 7	P49411	3
TVPFLPLGGC*IDDILSR	C180	1.40889912 9	Q7Z7H8 Q7Z7H8	2
ITAFVPNDGC*LNFIENDEVLVAGFGR		1.40942538 7	P62266	3
AFSPGLPPQSC*SLNLK	C251	1.410645	Q8N6M3	2
C*FLAQPVTLDDIYTHWQQTSELGR	C38	1.41147592 6	E7ETY2 Q13428 Q13428 Q13428 Q13428 Q13428 Q13428 Q13428 J3KQ96	2
ELEASEELDTIC*PK	C229	1.41198790 6	O76003	2
KLLAPDC*EIIQEVGK	C215	1.4142775	Q9NQT5	2
SSVQEEC*VSTISSKDEPLAATR	C78	1.41471690 1	Q7LOY3 C9JVB6	2
AAAPAPEEEMDEC*EQALAAEPK	C266	1.41591986 3	P26641 P26641	4
IGFPETEEEEIEIASNSDC*IFPSAPDVKA	C353	1.41725822	Q9Y3F4 Q9Y3F4	3
VC*NYGLTFTQK	C66	1.42322888 4	Q9Y277 Q9Y277	3
SETSVANGSQSESSVSTPSASFEPNNTC*ENSQSR		1.42577569 3	Q92575	3
GYWASLDASTQTTHELTIPNNLIGC*IIGR	C293	1.42705355 1	Q15365	2
C*LAQEVNIPDWIVDLR		1.42713376 5	Q9Y4W2 Q9Y4W2	3
DNLTWTSDSAGEEC*DAAEGAEN	C237	1.42860234 6	P27348	3
ENFSLDWC*K	C113	1.440755	H7BZ20 P23919	2
LALFNPDVC*WDR	C44	1.44422735 3	O00483	3
VLVTTNVC*AR	C393 C392 C310 C367 C362	1.44617131 4	Q9UMR2 I3L0H8 Q9UMR2 Q9NUU7 Q9UMR2 Q9NUU7 H3BQK0 F6QDS0 I3L352 Q9UMR2	3
C*EFQDAYVLLSEK		1.44813293 8	P10809	3

TVDSQGPTPVC*TPTFLER		1.44846199 8	Q9BYG3	2
ALVDGPC*TQVR	C42	1.45037973 1	E7EPB3 P50914	3
LC*YVALDFENEMATAASSSSLEK	C175 C219	1.45064283 6	P68133 P63267 P68032 P62736	3
AGQPSSSDAAQAPAEQPHSSSDAAQAPC*PR	C51	1.45349217 7	P29372 P29372 A2IDA3 P29372 P29372	2
WC*EYGLTFTEK	C65	1.45472889 7	P45880 A0A0A0MR02 P45880	4
GLQGVGPC*TDELLSAIASALHTSTMPITGQLSAAVEK	C172 C116	1.45652186 7	O95983 K7EIE8 A0A087X1H1 O95983 A0A0A0MTS6	3
AVASQLDC*NFLK		1.459745	A0A087X211 P62333	2
C*PEALFQPSFLGMESCGIHETTFSIMK		1.46027878 3	P60709 P63261	3
NADMSEEMQQDSVEC*ATQALEK		1.47227263 8	P63167	2
GQDHC*GIESEVVAGIPR	C319	1.47607305 8	P07858	2
KAVVVC*PK	C588	1.48076999 7	Q00839 Q00839	2
NAGNC*LSPAVIVGLLK		1.48536150 4	O43175	3
YAIC*SALAASALPALVMSK	C125	1.49100077 2	P36578	2
YAC*GLWGLSPASR		1.49119654 3	H7C0N4 H7C561	3
VWNLANC*K	C89	1.49728483 3	H0Y8W2 H0YAM7 P63244	2
SSSSVTTSETQPC*TPSSSDYSDLQR		1.49926206 6	P50552 K7EM16	4
VSDTVVEPYNATLSVHQLVENTDETYC*IDNEALYDICFR	C201 C183	1.50135590 2	P68371 Q9BVA1 P04350 Q5JP53 Q9BUF5	3
LIC*LVTGSPSIR	C590	1.50819619 7	Q6PI48	2
LLMEQESSAC*SR		1.51230943 4	O96011 O96011	2
TSC*SYCTMAK	C78	1.51387	Q9NS18 Q9NS18	2
LLACIASRPGQC*GR		1.51845565 9	P62241	2
LTALDYHNPAGFNC*KDETEFR	C19	1.52049	Q9Y224	3
C*SEGSFLLTTFFRPVTVPEMDQLDDEEGLPEK	C119	1.52295116 5	Q15233 Q15233	2
EVFSSC*SSEVVLSGDDEEYQR		1.52301125 8	Q09666	2
AAQVALLYLQELAEELSTALPAPVSC*PEGPK		1.52659	Q8WUUA4 Q8WUUA4 A0A087WZD8	2
GVLMYGPPGC*GK	C179	1.53420860 1	P43686 P43686	3
SC*SGVEFSTSGHAYTDTGK		1.53881893 8	Q9Y277	3
AYEYVEC*PIR		1.53894761 5	P53701	3
AGSDGESIGNC*PFSQR	C35	1.54119899 3	Q9Y696	3
AVC*MLSNNTTAVAEAWAR	C376 C446	1.54549938 2	Q9BQE3 F5H5D3	2
C*ASQVGMTAPGTR	C215 C204 C152	1.56112740 2	Q99439 B4DDF4 B4DUT8 A0A087X1X5	2
VFAEC*NDESFWFR	C38	1.572525	D6R918 Q9NX40 D6RIT9 D6RF07 D6RG39 D6RBC5 D6RA54 Q9NX40 Q9NX40 D6RC55 Q9NX40 D6RDI5	2
AIVLFTSDAC*GLSDDAAHIESLQEK		1.57798128 4	F1DAL9 P10589	2
YIETSEL*GGAR	C158 C361	1.58084739 8	O00429 O00429 O00429 O00429 O00429 O00429 G8JLD5 O00429 O00429	2
LVPASQC*GSLIGK	C109	1.60455777 3	Q15366 Q15366 Q15366 Q15366	3
MVYSTC*SLNPIEDEAVIASLLEK	C85	1.61025328 6	Q08J23 Q08J23 Q08J23	2
AGEVPPAMYQFSQYVC*QQTGLQIPQLPAPPK	C82 C60	1.61348327 6	K7EIR2 A0A140TA84 Q5XKP0 A0A140TA86	2
NC*PHVVVGTGPR	C164	1.63268	O00148	2

LC*DFGVSGQLIDSMANSFVGTR	C114 C211	1.64181196 1	G5E9C7 P36507	3
VAASC*GAIQYIPTELDQVR	C71 C134	1.64563093 2	Q7L2H7 J3KNJ2 E9PN86	2
VFFIQAC*QGDNYQK	C276 C139 C419	1.66235850 3	Q14790 Q14790 Q14790 H7C0E2 Q14790 Q14790	2
IVPVDIYIPGC*PPTAEALLYGILQLQR		1.67733289 8	O75251	3
YSDVEVPASVTGYSFASDGDGSGTC*SPLR	C430	1.68206341	P35611 P35611 P35611 E7ENY0 P35611 E7EV99 P35611 P35611	2
HGFC*GIPITDTGR	C72	1.685385	H0Y4R1 P12268	2
VGIGPGSVC*TTR	C186 C187 C171 C158 C204	1.68750316 3	H0YLV5 Q9P2T1 H0YNJ6 H0YNH0 Q9P2T1 H0YMB3 F8WAN9 A0A087WWM4 H0YLB8 H0YNS9 Q9P2T1	2
VVC*SSGAVGNYSGLAVK	C150	1.70663231	P16455	4
HEEFEEGC*K	C41 C245	1.71308040 7	I3L3Q4 Q9HC38 Q9HC38 F6TLX2	2
GSDC*GIVNVNIPTSGAEIGGAFGGEK	C450	1.72881750 1	P49419 P49419	2
LYYFYPC*YQEGLR		1.80403515 7	Q9NRW3	3
VLQSEFC*NAVR	C47	1.85633859 3	Q9NUP9 G3V1D4	3
EGTDSSQGIPQLVSNISAC*QVIAEAVR		1.86281452 1	Q99832	3
AALVVDNGSGMC*K		1.87007506 5	P60709	3
GC*STVLSPESQAQFAAQIFGLSNHLVWSK	C374	1.87575735 9	E9PBS1 P22234	2
MALDALLQEIALSEPQLC*EVLQVAGPDR		1.88892	C9J6P4 Q7Z2W4	2
IIC*SAGLSLLAEER		1.89278270 3	Q9BV86 S4R338	2
MLQPC*GPPADKPEEN		1.98226	Q9BWJ5	2
LLDLVQQSC*NYK	C30	1.99490898 3	B1AHD1 P55769	4
QAIDDDC*NQTGQMTAGFLDWPQGTAFASQVTLGDK	C78 C222	2.05062084 6	P38117 P38117 M0QY67	3
VNSDC*DSVLPNFFLLGGNIFDPLNLSLLDEEVS		2.08809727 5	Q7L2J0	2
NMITGTAPLDGC*ILVVAANDGPMQPTR		2.106734	P49411	3
TYDPSGDSTLPTC*SK		2.13378840 3	Q9Y2X3	4
TFC*GTPEYLAPEVLEDNDYGR	C310 C167	2.16790434 6	P31749 A0A087WY56 J3QKW1 G3V3X1 P31751 P31749 Q9Y243 Q9Y243 M0R0P9	3
LADQC*TGLQGLVFHFSFGGTTGSGFTSLLMER	C129	2.28451279 5	P68363 Q9BQE3 Q71U36	2
LFTEVEGTC*TKG	C38 C34	2.33520171 8	P62487 H0YEE4 E9PIU7 E9PKH3	2
TAGQTGMC*GGVR		2.349815	Q5VTL8	2
SKDVYGYSSC*R		2.37849950 1	Q8N9Z2	3
FLENTPSSLNIEDLFLSLAQYYC*SK	C283 C146	2.41395054 1	Q9NUY8 E9PGE5 Q9NUY8	2
YIELFLNSC*PK		2.43984465 5	F5H5I6 H0YAK1 H0Y8R1 Q12849	2
C*ALSSPSLAFTPIK	C120	2.44613178 8	Q8NFH5 Q8NFH5 Q8NFH5	4
LQVIQC*IDVAEQALTALEMSR	C583	2.45472690 5	Q14669 Q14669 Q14669 Q14669	2
MMYSPIC*LTQDEFHPFIEALLPHVR	C7	2.51783949 1	O00712 Q5VW26 Q5VW27 Q5VW30 Q5W0Y9 O00712 A0A087WXP2 O00712	2
LNQVC*FDDGTSSPQDR	C299	2.635595	H3BVG0 Q8N1F7 Q8N1F7	2
SQEATEAAPSC*VGDMDTPR	C57 C241 C84	2.766405	Q9UHD8 Q9UHD8 K7ER14 Q9UHD8 Q9UHD8 Q9UHD8 K7EJL9	2
ALADAQIPYSAVDQACVGYVFGDSTC*GQR		2.78445702 2	P22307	2
EISCVDIKPLSTLISVGC*DLDK		3.15389620 2	Q86XM0 Q86XM0	2
VLILDEATSALDVQC*EQALQDWNSR		3.54133283 7	X5CMH5 Q03519 A0A0G2JLV0 A0A087WYD6	3

YYALCGFGVLSC*GLTHTAVVPLDLVK		3.702385	Q00325	2
YIYDQC*PAVAGYGPIEQLPDYNR	C453	3.79911874 8	P31930	2
EGVC*AASLPTTMGVVAGILVQNVLK	C250	4.22341352 4	E7EQ61 Q9GZZ9 Q9GZZ9 E7EWE1	2

Appendix 1-4. IsoTOP-ABPP analysis of cysteine-reactivity in pooled primary human pancreatic ductal adenocarcinoma tumors. Ten primary human pancreatic tumor lysates were pooled together and labeled with 100 or 10 μ M of IAYne followed by subsequent isoTOP-ABPP analysis. Shown are ratios of heavy (100 μ M) to light (10 μ M) peptides.

Peptide	average area ratio	Uniprot ID
MAC*PLDQAIGLLVAIFHKY	259.7402597	R4GN98
KFLLDNPYHTYSYSC*SGSAITCSSKN	72.93946025	P04054
RENVIMSQILPC*IKE	72.88629738	P30153
KNIHESC*MSQIGWNRI	42.99226139	P11413
MC*DFTEDQTAEFKE	41.18616145	P60660
RGLYDGPVC*EVSVTPKT	40.66693778	Q16555
KSAAC*LAAGNTLVLKPAQVTLTALKF	35.33568905	Q3SY69
KC*VEELPEWNFDGSSTLQSEGSNSDMYLVAAMFRD	32.20611916	A0A087
RFRC*PEALFQPSFLGMESC*GIHETTFNSIMKC	26.93239968	P63261
RLIGPNC*PGVINPGEC*KI	26.37826431	P53597
RSNIPCHLVDISC*GLPC*SATLPCGMHKC	24.77700694	Q12986
KGEDFYC*VTCHETKF	23.83790226	Q13642
KNADMSEDMQQDAVDC*ATQAMEKY	23.03086135	Q96FJ2
KGSSVVAYEGQSWHDYC*FHCKK	21.11040743	Q13642
KVLVTTNVC*ARG	20.84201751	Q9NUU7
KAFC*GFEDPRT	20.15316405	Q15149
RGC*QDFGWDPFCQPDGYEQTYAEMPKA	19.28640309	Q9BY32
KIYLGQLEC*FSLGNLDAKR	19.12045889	O60547
RC*VANNQVETLEKL	19.06577693	P42704
KISASLQSQSPEHLLPVLIAAQLC*RE	18.75468867	O76094
KVTPGSTC*AVFGLGGVGLSAVMGC*KA	17.02707305	P00325
KAAC*LPLPGYRV	16.35858008	P13796
KAC*PRPEGLNFQDLKN	16.29195178	P15927
RNTGIIC*TIGPASRS	15.85037248	B4DNK4
RLSTLC*PSAVLQRL	15.795293	Q86VP6
RAITIANQTN*PLYITKV	15.4726907	Q16555
RFVQALLAPC*SLRS	15.41307028	Q9BU23
KVVAPTISSPVC*QEQLVEAGRL	15.02403846	Q9Y490
ALFQPC*FLGMESC*GIHETTFNSIMKS	14.95438911	Q6S8J3
RLDTMMASLLC*CHEAC*GTSVIVGVPPASQNLNSINPMLLLTGRT	14.74056604	P00325
KLAAQSC*ALSLVRQ	14.53911021	Q08211
KVYSYFEC*RE	14.43418014	C9JG65
KEQSDFC*PWYTGLPFIPYLDNLPNFRS	13.99580126	Q8IYD1

KALSDHHIYLEGTLKPNMVTGPHAC*TQKF	13.69863014	P04075
KC*IIVEEGKEILVGDVGVITITDPFKH	13.61285053	P60981
KAITSGGITYQDQPWHADCFVC*VTCSSK	13.36898396	Q13642
RYNLSPSIFFC*ATPPDDGNLCRF	13.25381047	H0YLA4
KVGEATETALTC*LVEKM	12.95252898	Q93084
KLQLEAGLVEC*LLEIVQQKV	12.92490629	P52306
KDGHCC*LKC	12.91655903	Q13642
RSC*NGPVLVGGSPQGGVDIEEVAASNPELIFKE	12.75591556	Q96199
KC*VLPEEDSGELAKPKI	12.66143327	Q9Y3F4
RAQQAC*IEAKH	12.56123603	Q9JUNE7
KC*SAAALDVLANVYRDELLPHILPLLKE	12.31678778	Q92973
RSLHDALC*VLAQTVKD	12.26141333	P78371
RDNLTLWTSDSAGEEC*DAAEGAEN	11.9345984	P27348
RHIEWESVLTNTAGC*LRN	11.64958062	O60716
RECPSDEC*GAGVFMASHFDRH	11.5928588	P62979
KGDCVECMAC*SDNTVRA	11.35460429	F5GX71
RARC*EPPAVGTAC*TRL	11.33016089	Q9NYJ7
RDLLSETADPFFVLNSDVIC*DFPFQAMVQFHRH	11.32887731	Q9Y5P6
KAITSGGITYQDQPWHADCFVCVTC*SKK	11.26760563	Q13642
KELIPEFFYFPDFLENQNGFDLGC*LQLTNEKV	11.19570085	Q6ZNJ1
RFIITALPTIYHC*KD	11.12842199	Q9H3N1
RSGQGAFGNMC*RG	11.10987668	P36578
KTSAPITC*ELLNKQ	10.87074682	Q14204
RLPSGLGC*STVLSPEGSAQFAAQIFGLSNHLVWSKL	10.79214332	P22234
KGTDIMYGTLDLC*WRK	10.77702339	P05141
KAYSFAMGC*WPKN	10.75268817	O43414
RSSLQSQC*LNEVLKA	10.62247716	Q14204
KC*ISEVQANNVVLGQYVGNPDGEGEATKG	10.48987727	P11413
RYWPQEAGEYAVHVC*NSEDIRL	10.41558171	Q5HY54
RIVGYFVSGC*DPSIMGIPVPAISGALKK	10.4123282	K7EME0
RGLGQEC*VLSSSPAVLALQTSLVFSRD	10.34447088	P78527
RTPC*NAGTFSQPEKV	10.21972407	J3QT28
KFGEVDC*TLKLDIPITGRS	10.14404545	D6RAF8
RAITIASQTNC*PLYVTKV	10.09438248	Q14195
RGFC*FLEYEDHKT	10.08572869	O60506
RGFC*FLEYEDHKS	10.08572869	O43390
RAVLNPLC*QVDYRA	10.08471158	F5H365
RAQVCQQAIEHSFAGMPC*GIMDQFISLMGQKG	10.0715077	P51570
KNC*LLLLTYLISELEAARM	9.9990001	Q8NCA5

RVACVQVVIIPC*GITNALSEEDKEALIAKC	9.987016878	P07814
KANLNYIGLDGNIGC*LVNGAGLAMATMDIIKL	9.804882832	Q9P2R7
RVILPGMTACIECTLELYPPQVNFPMC*TIASMPRL	9.796238245	Q8TBC4
RAHFPLGANPFLERPQSFISQSC*DAQGQRY	9.700261907	Q9Y6W3
RPAPAPSPAPTAC*RG	9.607993851	P51606
KITHSPLTIC*FPEYTGANKYDEAASYIQSKF	9.379983116	P04899
RCEAFGWHAIIVDGHSEELC*KA	9.37470704	P29401
RVQPAVPLQC*LLHRD	9.318796012	A0A0J9
RTWIAMAYC*SPKQ	9.316191541	A0A0A0
RLFAC*GIGSTANRH	9.230201218	Q9UJK3
RC*NWILDGDLYHKG	9.215740485	B4E2E0
KFMNSGQTC*VAPDYILCDPSIQNIVEKL	9.126585744	E9PNN6
RAWVWNTHADFADEC*PKPELLAIRF	9.063307201	C9JGV6
RAGVLLSEILHLLC*KQ	8.995232527	O43432
KVVTTPAFMC*ETALHYIHDGIGAMVRK	8.979885057	A0A096
RLQLC*YQLTTVGKF	8.97827258	P53621
RC*SQAVYAAEKV	8.973036027	P21291
RALGALVDSCAPGLC*PDWDSWDASKPVTNAR	8.877052818	Q5HY54
RNQASC*GSCYFASMGMLEARI	8.858965273	H0YCY8
RSQMYSYTDYDQILPDC*YSWPPEEVQKI	8.812125485	P48163
RSYILTQGPLPNTC*GHFWEMVWEQKS	8.775008775	P18031
KIPGGIIEDSC*VLRG	8.73591334	B4DUR8
KLPVLC*CTLQLRE	8.732861759	H3BND4
KVTVLTHC*NTGALATAGYGTALGVIRS	8.690362388	Q9BV20
REYVLQDSFKPLVC*ISPNASLFDVSSLIRN	8.67340301	P54619
RVC*EEIAIIPSKKL	8.658008658	A0A075
KAWNAVC*PLVVRL	8.599931201	C9IYV6
AAAVGPGAGGAGSAVPGGAGPC*ATVSVFPGARL	8.490405841	K7EK20
KLPVLAGC*LKG	8.459521191	P78527
KHFC*PNVPILVGNKK	8.425877555	P61586
KTNLSTVSDC*VHQVVELLQEQNIVPYTIKID	8.38012235	O95340
RSPYTVTQVQAC*NPSACRA	8.335069806	Q5HY54
KYHTVNGHNC*EVRK	8.334722454	P09651
KLC*GDTSLNNMQRQ	8.329862557	O00410
RMLVEPAC*GAALAAIYSGLLRR	8.292561572	H0YID3
RSC*MLTGTPEVQSAKR	8.262414277	E9PEB5
KC*IPYAVLLEALALRN	8.256956486	F5H4U8
KDSCQGDSSGPPVCNGQLQGVVSWGDGC*AQKN	8.213552361	E7EQ64
RGQCDLELINV*NENSLFKS	8.210180624	Q00610

RMALDALLQEIALSEPQLC*EVLQVAGPDRF	8.192020972	C9J6P4
KTNC*NVAVINVGAPAAGMNAAVRS	8.187326019	Q01813
KVSVHC*PVFDYVPELITLFIISNIGGNAPSYIYRL	8.171269815	P49770
RC*IADVLSLITVMDKL	8.155941603	E9PQR7
KYDGSTIVPGEQGAEQHFIIQQC*TDDVRL	8.130742337	Q14019
KDLAGC*IHGLSNVKL	8.036001286	P48735
RVVTQNIC*QYRS	8.010894817	G3V119
KLSDQC*TGLQGFLVFHSFGGGTSGGFTSLLMERL	7.986369929	P68366
RICELLPEAAINDVYLAPLLQC*LIEGLSAEPRV	7.984669435	Q14974
RATEVPVSWESFNNGDCFILDGNNHQWC*GSNSNRYERL	7.940289027	A0A0U1
KITSC*IFQLLEAGIKT	7.910923007	P22234
KTTVPCVTHAGFCC*PLVVTMRPIPKD	7.903264048	E5RIU5
KVAEELCC*LLGQVFQVYVYTESTIDFLDRA	7.877737514	A0A0A0
KC*SVNLANKRF	7.82778865	Q13642
RIQFNDLQSLLC*ATLQNVLRK	7.802746567	Q14974
KLTPFIQENLNALNSASAIGC*HVVNIGAEDLRA	7.797068302	P13797
KC*HDYYTTEFLYNLYSSEGKG	7.757350089	P17858
ADMSEEMQQDSVEC*ATQALEKY	7.729767334	P63167
KAVENPTATEIQDVC*SAVGLNVFLEKN	7.719623282	A0A087
RAFLAAALAQGLC*EVLLVVTKE	7.701786815	Q8TAC2
RGFHC*ESSAHWPIFKW	7.68403258	P55884
RTDIC*QGALGDC*WLLAAIASLTLNEEILARV	7.683442182	P17655
KGVGTDENC*LIEILASRT	7.65872712	Q9UJ72
HSVKVEWGSYLHLLLHAIFIGFDHC*HPEVYEHC*KR	7.602250266	O94915
KLITWSPVC*RN	7.573462587	A0A087
KSLC*NLEESITSAGRDDLESFQLEISGFLKE	7.519079665	Q52LJ0
RLRPLSYPTDVLIMC*FSDSPDLENIPKWK	7.499343807	P61586
RWNDNC*PSWNTIDPEERE	7.481949796	P17655
KEPDC*FKDIVNMLMHDRF	7.471049682	P11216
RNLALC*PANHAPLQEAIVIPRL	7.469933518	P14923
RDVQIILESC*HNQNILGTILHPNGNITELLLKE	7.450454478	Q7KZF4
RRGPC*IIYNEDNGIICA	7.421884664	P36578
KMSSYAFFVQTC*RE	7.38852562	P26583
RESQLALIVC*PLEQLLQGINPRT	7.363228039	Q92621
RLITIEINPDC*AAITQRM	7.333528894	P21964
RNQASCWSC*YSFASMGMLEARI	7.330303475	H0YCY8
RFVFPAAVAAANC*INIPLMRQ	7.327080891	A0A0A0
KVSC*SPVSAQLLSVLQGLLHLEPTLRS	7.254261879	Q27J81
KNIHVC*LGGLFVPEAYITATRQ	7.235366471	Q14204

RSAGWNIPIGLLYC*DLPEPRK	7.217090069	P02787
RLC*SGPGIVGNLVDPSARI	7.214226455	Q9Y5P6
RHEALLYTWLAEHKPLVLC*GPPGSGKT	7.183391998	Q14204
RSELPYVLEMVAELAGQQDPGLGAFSC*QEARR	7.174630507	Q96EP0
KYLC*DEQKELQALYALQALVVTLEQPPNLLRM	7.157171486	Q04637
KGEQQYLQQDANEC*WIQMMRV	7.150518413	A6NJA2
KKAAAPAPEEEMDEC*EQALAAEPKA	7.09933148	P26641
KIC*LSISGHPETWQPSWSIRT	7.09572128	Q9Y385
RVSTALSC*LLGLPLRV	7.0666384	O00442
KVEYPIMYSTDPENGHIFNC*IQRA	7.061149555	O14880
KQTIGNSC*GTIGLIHAVANNQDKL	7.011393514	contam
KSC*LESVQPFLASILEELMGPVSSGFSEVRV	6.985679357	Q9BZQ8
RKFLDGNEMTLADC*NULLPKL	6.964273278	Q9Y696
RGYDFC*QVLQWFAERV	6.964273278	Q9H223
KGQVLSVC*VEEENIIPYITNLQNPDLALRM	6.950477845	Q00610
KC*FGTGAAGNRT	6.945409085	P78527
RLALFNPDVC*WDRN	6.937218176	O00483
KEQSDFC*PWYIGLPIFYLDNLNPNFNRS	6.928086463	H3BR35
KGSDC*GIVNVNIPTSGAEIGGAFGGEKH	6.917064398	F8VS02
KNHAVVCQGC*HNAIDPEVQRV	6.905600442	Q9UGI8
KIVTVNSILGIISVPLSIGYC*ASKH	6.899644668	Q9Y394
RQALVEFEDVLGAC*NAVNYAADNQIYIAGHPAFVNYSTSQKI	6.878525244	P14866
RFGEGLLEAELAALC*PTTLAPYYLRA	6.8766332	O14558
KALTNLPHDTFTLC*KC	6.874269609	K7EQM4
RESGLQAAHPNSIFLIDHAWTC*RV	6.827802813	Q14166
KTNHIGHTGYLNTVTVSPDGLSC*ASGGKD	6.82104976	J3KPE3
KTDVLLVLC*DLITDVALHEVDLFR	6.811061163	Q9NR50
RAISCMGQIIC*NLGDNLGSDDLNTLQIFLERL	6.808974228	Q86VP6
RGSSC*FECTHYQSFLYRE	6.805962023	P21964
RTVEEIEACMAGC*DKA	6.795093942	P12955
RIGEGLDQALPC*LTELILTNNSLVELGDLDPASLKS	6.786908054	P09661
RGFGFVTYSC*VEEVDAAMCARPHKV	6.782880011	P51991
KVQAQYPGVC*INNEVVEPSAEQIAKY	6.782573308	P50135
RTVVNISSLC*ALQPFGK	6.746500253	P35270
RIC*SKPVVLPKG	6.741724533	P78527
KYYALCGFGGLVLC*GLTHTAVVPLDLVKC	6.736728645	Q00325
KVILALGDYMGATCHAC*IGGTNVRN	6.702862122	Q14240
RIALQGTLLNTYVC*SILIRT	6.689410663	P36382
RLLCYC*PGGQAGGAQQGFLLRDLDDPDTRQ	6.671559143	Q5EBM0

RQC*PIMDPAWEAPEGVPIDAIIFGGRR	6.671559143	B4DW73
LYFAGNLASGGAAGATSLC*FVYPLDFART	6.664889363	P05141
KITLDNAYMEKC*DENILWLDYKN	6.657013996	B4DNK4
KC*PSIAAAIAAVNALHGRW	6.652032196	Q14498
KGELGC*FLSHYNIWKE	6.632765863	Q8NBJ5
KNDPPMEAAGFTAQVILNHPGQISAGYAPVLDCHTAHIAC*KF	6.628662336	P68104
KSDIWSLGC*LLYEMAALQSPFYGDKM	6.602839221	Q9HC98
RFLGNLVLNLWDC*GGQDTFMENYFTSQRD	6.554798112	Q5VZM2
KLGGSLIVAFEGC*PV	6.547930854	P60981
RNEANQPLC*LPALLIYTEASYIPDDHQDYAEALINPIKH	6.542361793	Q01970
KFLDALELSQSPMLLELMTVLC*RE	6.5142336	P78527
RAHLLAEVIENLEC*DPRH	6.502373366	Q96C86
RFPQDDLDC*QYITSDDLTQMLDNLGLKY	6.491960789	P50135
RADELLC*WEDSAGHWLYE	6.422195106	H3BPR2
KKPWFLTNEVEEC*ENYFSKT	6.399180905	Q9BQG2
RVAC*VQVVIIPCGITNALSEEDKEALIAKC	6.384337093	P07814
KAGSNMLLIGVHGPTTPC*EEVSMKH	6.358087487	O75369
KTDVKNIEEFLEEVLC*PPKY	6.349206349	Q9Y696
KFLGMHPC*ERS	6.347997207	Q9Y678
RDDFAYC*LNCFCDLYAKK	6.31592244	J3KNW4
KFDTLCDLYDTLTITQAVIFC*NTKR	6.288121738	P38919
RIC*ELLPEAAINDVYLAPLLQCLIEGLSAEPRV	6.279829189	Q14974
KFIQQTYPGGEEQAQYC*RA	6.261348695	Q8WUM4
RSC*PVVQSSQHLFLDLPKL	6.248437891	P56192
RINFYC*PGSALGRN	6.220839813	Q9Y5B9
RNMNC*IEMGGNPLENSGFEPGAFDGLKL	6.194827319	P21810
KEVEAVIPDHC*IFASNTSALPISEIAAVSKR	6.187735907	P40939
RISDTGSAGLMLVEFFAPWC*GHC*KR	6.170173382	P30101
RIVPVDIYIPGC*PPTAEALLYGILQLQRK	6.148170919	O75251
KYNYPTYDFAC*PIVDSIEGVTHALRT	6.137605106	P07814
KVALEGLRPTIPPGISPHVC*KL	6.135345727	Q13418
RLLVLEAFQVSHPC*RQ	6.129704548	G3V5T0
KGQVLSTINTNQMNNTAAVSPC*GRF	6.12876536	Q96E41
RITDVMIC*AGASGVSSCMGDSGGPLVCQKD	6.12332374	Q6GPI1
ECENC*DCLQGFQLTHSLGGGTSGMGTLISKV	6.11995104	Q13509
KNYVTVMQNNPLTSGLEPSPQC*DIIRPSLTGKF	6.098676587	P16333
RHYQGVLPVAVLELLQGLESLGC*IRK	6.088280061	Q12789
RQLFALSC*TAEEQGVLPDDLGSVIRR	6.079396924	P04899
RVVVVDLLATGGTMNAAC*ELLGRL	6.063423409	P07741

RTYSHLNIAGLVGSIDNDFC*GDTMTIGTDSALHRI	6.049057859	P17858
KEFHQAGKPIGLC*CIAPVLAAKV	6.043391551	A0A096
RVTTGAPIPC*GADAVVQVEDTELIRE	6.028454304	Q9NQX3
KVEAILVNIFGGIVNC*AIANGITKA	6.028090904	Q96199
KYTQSNSVC*YAKN	6.021194605	P31939
KLC*VPAMNVNDSVTKQ	6.017933442	O43865
RVETNQDWSLMC*PNECPGLDEVWGEEFEKL	6.016847172	P23921
RSNELGDVGVHC*VLQGLQTPSCKI	6.00348202	P13489
KLQVEVC*EEQRL	5.995203837	Q13596
KVC*FGIQLLNAVSRV	5.963384817	Q99685
KSC*SGVEFSTGSSNTDTGKV	5.957936965	A0A0A0
KESLC*QAALGLILKE	5.953444067	E9PHF7
KAEPQPC*TSLAWSADGQTLFAGYTDNLVRV	5.942594537	J3KPE3
RIEEDVVVTDSGIELLTC*VPRT	5.936832106	P12955
KVIVVGNPANTNC*LTASKS	5.879586077	P40925
RTLGTVIDSGDGVTHVIPVAEGYVIGSC*IKH	5.843169335	P61158
KQTISNAC*GTIGLIHAIANNKD	5.83668943	contam
KC*VDLVIQELINTVRQ	5.820044232	P50570
KTIGGGDDSFTHFFC*ETGAGKH	5.803830528	P68366
RCSTSLVGQGFVPDGDQVLC*QGCSQAGP	5.794414185	Q13643
KYSNSALGHVNC*TIKE	5.790052689	F8W914
KVPAFEGDDGFC*VFESNAIYYVSNEELRG	5.773505384	P26641
REGVC*AASLPTTMGVVAGILVQNVLKF	5.757273355	Q9GZZ9
RLVIGQNGILSTPAVSC*IIRK	5.748117492	P36871
RENEITGALLPC*LDESRF	5.737893046	Q9Y3Z3
KVC*NYGLTFTQKW	5.732630131	Q9Y277
KTC*QVLEALNVLNRPNIRE	5.724098454	E9PKW8
KNPESNYC*LKN	5.719842132	P07327
RVILSSSTSC*LMPSKL	5.70939195	Q9Y2S2
RFQSAAGALQEASEAYLVGLFEDTNLC*AIHAKR	5.706785368	P84243
RTELFIAAEGIHTGQFVYC*GKK	5.693139767	E9PKZ0
KALENDPDC*RH	5.685371539	P13796
RKGTVLLADNVIC*PGAPDLAHVRG	5.673565723	P21964
RATLQAALC*LENFSSQVVERH	5.654189755	H7C0A3
RFIECYIAEQNMVSIAGVC*ATRN	5.641748942	P29401
KEAEVVLCCGGTESMSQAPYC*VRN	5.637614162	K7EME0
KVELC*SFSGYKI	5.631581911	P83731
KNLVLTYNVAISSGDLPC*IENAVLALAQRE	5.627778716	E7ETN8
RYEAAFPFLSPC*GRE	5.626195567	Q6P1X6

KSSVNC*PFSSQDMKY	5.62239964	Q08211
RLTWHSC*PEDEAQ	5.62239964	Q13185
KDGIILC*ELINKL	5.618924538	Q15417
VDLAPVEAPGLAPVPSTVC*PLRR	5.601299501	Q6PJ69
KKTYITDPVSAPC*APPLQPKG	5.600358423	A0A087
RGYGLFAGPC*KV	5.582537822	P78527
KELELLDRELC*QLLEGLVLRD	5.58098002	G3V1A6
KSC*CDYALHVDITHWNSVKQ	5.572582892	Q14195
RATDYPC*LLILDQPNEFETLRK	5.572272373	Q9NVG8
RIC*IVGPNGVGKS	5.563282337	H0YGW7
RDGSDYEGWC*WPGSAGYPDFTNPTMRA	5.562147731	E9PKU7
RNQSFC*PTVNLDKL	5.546157899	P46776
KGVLFGVPGAFTPGC*SKT	5.529444291	P30044
RLQAEVLEC*VSLVELTSLKG	5.526083112	P07741
REITAISSVPC*QLLESVLQELKG	5.524861878	E9PF10
KINQLC*SQTKG	5.519677651	Q16666
KLNLFINIIGLAPLC*ENMPSPGKA	5.512983075	P28838
KFFACAPNYSYAALCEC*LRR	5.501457886	Q96RS6
RAGKPVIC*ATQMLESMIKK	5.453454764	B4DNK4
KETGLSHLCEFIEDC*EFTVLATRI	5.431093007	Q9Y678
RLVSSPCC*IVTSTYGTANMERI	5.425788774	P08238
KALGAIVYITEIDPICALQAC*MDGFRV	5.42269942	O43865
RSCYDLSC*HARA	5.411548244	P41250
KIIAIANYVC*RN	5.40891389	Q16666
KAC*QSIYPLHDFVVRK	5.405405405	D6RG13
RIGTSGGIGLEPGTVVITEQAVDTC*FKA	5.396945329	Q16831
KLNEC*VDHTPKL	5.383869926	P78417
KC*VLTHSPTWIIDPIDGTCNFVHRF	5.377789728	O14732
KAKFENLC*KL	5.377789728	P08238
RVVSGMVNC*NDDQGVLLGRW	5.37706681	P21980
KVAC*ITEQVTLVKNRI	5.360062177	P04843
KLTPFTIQENLNLALSASAIKC*HVVNIGAEDLKE	5.359248276	P13796
KFTLDC*THPVEDGIMDAANFEQFLQERI	5.357836506	P35268
RLILDVFC*GSQMHFVRS	5.343450266	P11413
KNIC*QFLVEIGLAKD	5.335894563	P41567
KYFLVGAGAIGC*ELLKN	5.309123729	P22314
KLNGGLGTSMGC*KG	5.296890725	C9JNZ1
KGAQVNAVNGQGC*TPLHYAASKN	5.292125318	O75832
RHCGYLALVSALAC*GADWVFLPESPPPEGWEEQMCVKL	5.287927661	Q01813

RSCADC*KAPDPDWASINLC*VVICKK	5.285412262	Q8WZ64
RYC*IGLNETQLGIIAPFWLKD	5.281225244	Q96DC0
RAVASQLDC*NFLKV	5.276766398	P62333
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KALGAIYYITEIDPIC*ALQACMDGFRV	5.257001669	O43865
RANVPNKVIQC*FAETGQVQKI	5.252560623	Q00610
RSDQLQQAQVQSQGFINYC*QKK	5.241639585	O94979
KILVALC*GGN	5.236698785	P04083
KGLSLLC*NFTKS	5.235876224	P78527
KTIDGQQTIIAC*IESHQFQPKN	5.230399079	P52907
REYGSC*SHHYQLLQSLEQGAQEESRC	5.212405525	Q15149
RFDPTQFQDC*IIQGLTETGTDLEAVAKF	5.205622072	C9JWF5
KNC*LTNFHGMDLTRD	5.204809244	D6RG13
RGISSQPPELHC*AALKV	5.19939687	Q16401
KGC*GTVLLSGPRK	5.193456245	H0YHA7
KTVGVQGD*RS	5.188067445	P49915
KLINLPEDYSSLINQASNFSC*PKS	5.184033178	Q8IWW8
RIGIASQALGIAQTALDC*AVNYAENRM	5.163289015	E9PE82
KSVPLC*ILYEKY	5.13478819	P21980
RC*TVVSVPSLLWRM	5.132767588	Q96CX2
RIC*LAEFLTADTILNTLQNISEGLVVYPKV	5.130573085	P30566
RGLSNLFLSC*PIPKL	5.126102112	Q9Y570
KLPITVLNGAPGFINLC*DALNAWQLVKE	5.124197743	P31939
KTIAEC*LADELINAAGK	5.117707267	M0R0F0
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KSGDAAIVDMVPGKPMC*VESFSDYPPLGRF	5.1011299	P68104
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RAVLEALGSC*LNNKY	5.072794603	P34896
RC*IESLIAVFQKY	5.063462058	P31949
KVAMNVYELSSAAGLPC*EIDPALVVALSSQKS	5.055867334	Q9Y2A7
KQIVLTGILEQVVC*RD	5.053440129	Q96QK1
KAASLLEILGLLC*KS	5.052291214	Q04637
KDILQERIPWVPECC*IENPKN	5.050249987	O60674
RC*VGTEADSVLQAANILLPSNTHKDRY	5.050249987	K7EQV0
KAFQYVETHGEVC*PANWTPDSPTIKPSPAASKE	5.043881771	P30048
KIVDAVIQEHQPSVLELGGAYC*GYSAVRM	5.036514732	P21964
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KC*QLEINFNTLQTKL	5.022097228	O43707
RGFFIC*DQPYEPVSPYSCKE	5.017813237	P07814

RLCPIPIWNPAPQPPGPHLLPSNEC*VELFRT	5.010522096	H0YMB0
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RLPVVIGGLLDVDC*SESVIKN	4.99238661	Q00610
RTTANAICY*PPKL	4.991016171	O00231
RVVNALQTL*ALIRG	4.979583707	Q5T2E6
RLSYYPHC*LASFTELLQAAFGGKC	4.976857612	Q14749
REHPALLVEFYAPWC*GHC*QALAPEYSKA	4.963764519	Q13087
RAEDC*TVCWNTATIRWRP	4.957120904	Q8N3K9
KDNQFC*VPCYEKQ	4.951720723	J3KNW4
KVLNEEC*DQNWYKA	4.950985246	P62993
RLTIVDTPGFGDAVNTEC*WKPVAEYIDQQFEQYFRD	4.941321804	O43236
RELLTEFGYKGEETPVIVGSALC*ALEGRD	4.934616334	P49411
RLFVSGAC*DASAKL	4.929022082	B3KVK2
KSTFFNVLNSQASAENFPFC*TIDPNESRV	4.927564797	Q9NTK5
KLDINLLDNVNC*LYHGEGAQORM	4.924167816	O14980
KIC*HQIEYYFGDFNLPRD	4.915212583	P05455
KLPCIFIC*ENNRV	4.91086775	P08559
RLILADALC*YAHTFNPKV	4.909782742	P28838
RDFTQLNELQC*RF	4.904845988	A0A087
RFC*ADHPFLFFIRH	4.903883876	P50452
KYVVCFDPLDGSSNIDC*LVSVGTIFGIYRK	4.901960784	P09467
KLAPALCC*GNTMVLKPAEQTPTALYLGSLIKE	4.900279316	P47895
KC*FSIDNPGYEPEVVAVHPGGDTVAIGGVDGNVRL	4.89260727	O75083
KVC*HANPSERA	4.888780249	P53618
REAGGIVIDTSGGPLDLMAC*RV	4.882574093	O14732
KSCFLC*MVCKK	4.879715025	P21291
RDKAPGQLEC*ETAIAALNSCLRD	4.862867146	Q9Y490
RGNHEC*ASINRI	4.857434303	F8VR82
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RYFAGNLASGGAAGATSLC*FVYPLDFART	4.854604592	P12236
KAQLNIGNVLPVGTMPGIVC*CLEEKPGDRG	4.852602208	E9PKZ0
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RADHQPLTEASVNLPTIALC*NTDSPLRY	4.849778123	P08865
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KLLETEC*PQYIRK	4.84249776	P05109
RNWWYIATC*ATSGDGLYEGLDWLANQLKN	4.831244625	P61204
KNYLPAINGIVFLVDC*ADHERL	4.831034566	D6RDB2

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KFFGNLAVMDSPPQIC*ERY	4.80653689	Q16401
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RC*TGGEVGATSALAPKI	4.781943382	P30050
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KFIC*TTSAIQNRF	4.771220001	P53396
KAYC*EPCYINTLEQCNCVCSKPIMERI	4.758505829	A0A087
KC*PNADLKPQEILVSVNIPYSRK	4.752287038	Q06278
RGVPGAIVNVSSQC*SQRA	4.75202357	Q7Z4W1
KC*ASQSGMTAYGTRR	4.74788719	Q99439
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KTFC*GTPEYLAPEVLEDNDYGRA	4.709206499	P31749
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KSYC*AEIAHNVSSKN	4.672678847	F8W727
RFNAHGDANTIVC*NSKD	4.672242209	P09382
RDVC*TELLPLIKPQGRV	4.633490872	P16152
KC*MQLTDFILKF	4.633168856	P50914
RVGVDEYEGGC*RF	4.600556667	Q02809
RLGNLVC*VLAHH	4.599063835	P68871
KVADSSPFALELLISDDC*FVLNGLCGKI	4.592633416	P40121
RTDICQGALGDC*WLLAAIASLTLNNEILARV	4.588208305	P17655
KGQGVYLGMPGC*LPVYDALAGEFIRA	4.581271761	P30040
RLLLCVEC*LVSPPEHMSHHELTIENTALSHYKERL	4.576659039	A0A0G2
KDINAYNC*EEPTKEL	4.575193302	P30041
GVEAFLGAELC*QEAHSIISILEQAACK	4.572682793	A0A087
KSDPMVQC*IIESGEHIIAGAGELHLEICLKD	4.570314285	P13639
KC*AFISQASATMHLPATIGDYTFYSSRQ	4.568922191	P16930
RALLVTASQC*QQAENKL	4.567878677	Q01518
RVIGSGC*NLDSARF	4.566071048	P07195
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RALVDGPC*TQVRR	4.555186079	P50914
RAPAMC*SSPRVPRP	4.541738578	Q96GM1
RTGC*TFPEKPDFH	4.540913632	P55263

RALIHSAC*VKA	4.531448251	Q08257
KC*LHPLANETFVAKD	4.529190634	Q13642
KDFSAFINLVEFC*RE	4.52857531	P78527
RWLLLC*NPGLADTIVEKI	4.525398801	P11216
KIIATAVC*HTDAYTSLGADPEGCFPVILGHEGAGIVESVGEGVTKL	4.524119211	P11766
KSLSGGASYVDFLC*HMHKE	4.522635792	P53992
KLQDEELDEPFVQQVADFC*SYIFSNSKT	4.521408871	P32455
RANPDPMC*CLGVFGLSLYTTERD	4.515080368	P62995
RAC*VSMLGVPVDPDTLHATRL	4.503084613	Q7Z6Z7
KC*MPTFQFFKK	4.497009489	P10599
KSCCSC*CPVGCACK	4.480889008	P13640
RLGVHPLSC*HGWLGEHGDSSVPVWSGMNVAGVSLKT	4.478681476	P00338
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RYSYVC*PDLVKE	4.463488663	P61158
KFC*DNSSAIQGKE	4.461696337	O15067
KLFC*LETFLSGLIAHQKG	4.458314757	O14896
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KSTLTDSLVC*KA	4.427260116	P13639
KC*YGLHAFIVPIRE	4.422234998	Q15067
KTVRPFMSMVCC*PVNENAAALVSDGRV	4.410337832	Q9BZH6
RC*LGSLFMSMLHQACRN	4.407616361	Q14204
RTC*FETFPDKVAIQLNDTHPALSIPELMRI	4.405286344	P11216
KLLSNMMC*QYRG	4.401150167	P28062
RVTLADITVVC*TLWLKYQ	4.383465568	P26641
RSGCNGDGGPLNCPTEDEGGWQVHGVTFSVSAFGC*NTRR	4.376942268	P08861
RVNIHCPC*GLVTAHVACEDGRS	4.361289197	Q96EM0
REC*ANGYLELLDHVLLTLQKPSPELKQ	4.361098997	Q9Y490
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KC*PLLPWALTFSYGRA	4.348960598	P04075
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RYVDIAIPC*NNKG	4.333318889	P08865
RADQELMTYSHDNIC*GITSVSFSKS	4.330504071	B3KVK2
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KLLACIASRPGQC*GRA	4.28259411	P62241
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KNMMAAC*DPRH	4.253834832	Q5ST81
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RC*LAFHDISPQAPTHFLVIPKK	4.198152813	D6REP8
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KTHNSSLEYNIFEGMEC*RG	4.190587939	Q16555
RNSC*AADDKATEPLPKD	4.188949551	P50440
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RYLAEVAC*GDDRK	4.173309184	P27348
RNAFAC*FDEEASGFIEDHLR	4.170880994	P24844
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RTFC*QLILDPIFKV	4.098696614	P13639
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KILAC*DDLDEAARM	4.07149546	Q9P2R7
RHTLDGAAC*LLNSNKYFPSRV	4.068513772	Q9Y3A3
KQSLLC*PKS	4.060913706	Q56VL3
KNC*MTDLLAKL	4.056301464	Q00765
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RKNWC*ALITETAGSLKV	4.051371389	M0QYC1
RGLVVLGFPC*NQFGHQENAKN	4.047435949	A0A087

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RGLPWSC*SADEVMR	4.033233847	P55795
KASC*LYGQLPKF	4.01477437	P09211
KAWC*VNCFACSTCNTKL	4.003683389	P48059
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RWFLTC*INQPQFRA	3.987002372	P26641
RKAC*ADATLSQITNNIDPVGRI	3.984698757	P62873
KAAGGIILTASHC*PGGPGGEFGVKF	3.979941097	Q5JTY7
KSC*SPELQQKF	3.975194785	P16152
KC*GLLPISPEALSLEGEVAYHYHGILVDEEEKV	3.974878766	A0A0A0
RIEC*YEVNYQPLDEELDSHLSYIKIFDVGTRY	3.973773098	P16118
RVC*ALLSCTSHKD	3.97294425	P15121
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RNLSFFLTPPC*ARW	3.969199016	P42224
KEHVIANSQGFHC*QRR	3.965893317	P55160
KC*PFTGNVSIRG	3.962750149	P62280
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KNMITGTSQADC*AVLIVAAGVGEFEAGISK	3.959376794	P68104
RTVPFC*STFAAFFTRA	3.954861843	P29401
KGLIDYNFHC*FRK	3.951475876	Q9NQL2
RNEDSQSIVVWHAFPELFLSC*LNHPDKKI	3.945551391	Q9UBB4
KVYQGLYC*VAIRD	3.94368419	C9J0E9
RDAC*FTSLMNTLMTSLPALVQQGRL	3.940265574	Q9UBB6
RYGLSDLSC*KI	3.933910307	I3L4N7
RIC*YIFHETFGRT	3.926033528	O00429
KFLENTPSSLNIEDIEDLFLSLAQYYC*SKT	3.924338749	Q9NUY8
KFDVFEDFISPTTAAQTLFTAC*SKR	3.924082092	Q95373
TALANVNISSLIC*NVGAGGPAPAAGAAPAGGPAPSTAAAPAEKK	3.923491908	P05386
KALANVNISSLIC*NVGAGGPAPAAGAAPAGGPAPSTAAAPAEKK	3.923491908	P05386
KFDTGNLC*MVTGGANLGR	3.92279931	P62701
RC*SEGSFLLTTFPRPVTVPEMDQLDDEEGLPEKL	3.920953576	Q15233
KVEEHTNAIGTLHGGLTATLVNISTMALLC*TERG	3.91895599	Q9NPJ3
KLSLLEVGC*GTGANFKF	3.912975427	Q9H8H3
RDAANC*WTSLLSESEYAADPWVQDQMQRK	3.910833007	Q8WVJ2

RSGTIC*SSELPGAFAEAGFHLNEHLYNMIIRR	3.910177634	A0A0C4
RLLQFYAETC*PAPERG	3.907318407	I3L3F5
KIATAVCHTDAYTLSGADPEGC*FPVILGHEGAGIVESVGEGVTKL	3.90375932	P11766
KITVVGAVGVMAC*AISILMKD	3.896682253	P00338
RFIPC*SPFSDYVYKRI	3.893474537	Q14195
KAAAFVTSPLSPDPTTPDYINLLASGDLQLSGSAHC*TFSTAQKA	3.889688436	Q14195
RTIQFVDWC*PTGFKV	3.888024883	Q9BQE3
KHLNEIDLHC*IDPNDSKH	3.8860607	Q15185
KCLHSVGQPLTGQGEVSVQWPC*NPEKT	3.881158914	B4DW73
KLREC*LPLIIFLRN	3.876231915	P62701
RVFNVFC*LYGNVEKV	3.875968992	P14866
KSSTEIPLETC*C*SSELKGGSGTSLERE	3.874617382	Q8NCN4
KLGYAGNTEPQFIIPSC*IAIKE	3.872516749	P61158
RSTVLSLDWHPNNVLLAAGSC*DFKC	3.869819279	O15143
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KEGIC*ALGGTSELSSEGTQHSYSEEEKYAFVNWINKA	3.852772712	P13797
KVFADYEAYMQC*QAQVDQLYRN	3.850152081	P11216
KAQNTWGC*GNSLRT	3.846153846	P02545
KQAFTDVATGSLGQGLGAAC*GMAYTGKY	3.840786593	P29401
RLQQVLHAGSGPC*LPHLLSRL	3.839508543	A0A0G2
KGC*WDSIHVVEVQEK5	3.834649896	B1AK87
KNIVHC*DLKP	3.832298613	B4DTS2
RWHLC*PTLYESRF	3.831417625	Q9H3H3
KWGTIEVENTHC*EFAYLRD	3.82248385	Q9UHD8
RDQLQELC*IPQDLVGLASVVFQSQRPRLDLSVAQQGAWLPHVADFRW	3.819272047	E9PJE4
KDSLQCTC*EEMNDINAPYLVMGQKQ	3.808943399	Q96HF1
KYIYDQC*PAVAGYGPQEQLPDYNR1	3.805899144	P31930
RSVVC*QESDLPDELLYGRA	3.804161753	Q9NS86
RC*ELQIHGLSVADTGEYSVCVCGQERTSATLTVRA	3.803004373	A6NGQ3
KDFSHPC*TWQVLDGAEDTLRE	3.799103412	Q9BSH5
KLLEFQLALKDC*EECIQLEPTFIKG	3.799103412	P31948
KFSGDLDQTC*RE	3.794778385	P05455
KVIPLFTPQC*GKC	3.786779092	P00326
KYAGLSTC*FRQ	3.784366781	P49591
KIYDPVCGTDGNTYPNECVLC*FENRK	3.783579266	P00995
RSC*GSSTPDEFPTDIPGTKG	3.782720533	H7BZU1
KFAELVYTGFWHSPEC*EFVRH	3.779003855	P00966
RGEGTGLGSLSLPLSELLVADQLC*LDRW	3.77515195	Q9BSJ8
RYATSCYSCC*PRL	3.770454717	K7EN91

RAGYLYALLYLNTEIGPGTVC*ESAIKE	3.763501562	Q9NS86
KNIC*FTVWDVGGQDKI	3.754176521	P84085
KNC*GQMSEIEAKV	3.751641343	Q9Y490
RC*LAPMMSEVIRI	3.74925015	P40939
KMVAVGIC*RT	3.748828491	P00325
RESSYAC*YYDEKR	3.738876841	Q99538
KLWNTLGVC*KY	3.735943513	J3KPE3
RDDFAYCLNCF*C*DLYAKK	3.735455072	J3KNW4
KFGANAILGVSLAVC*KA	3.728352255	P06733
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RALIDMYIEGIADLGEMILLPVC*PPEEKD	3.719131211	P08263
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KLTFSC*LGGSDNFKH	3.699524611	Q15185
KTFPNLLVACDVC*LC*PYTSHGHCGLLSENGAFRA	3.698772008	P13716
RMNTLLANGEVPLFEGDEYATLMTQC*KE	3.695559785	Q14204
RAEEDVEPEC*IMEKV	3.693307726	H0Y5J4
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REAYC*LQYSNNLQEDIYSETSGHFRD	3.670735065	Q9UJ72
KLADQC*TGLQGFLVFHSGGGTSGFTSLLMERL	3.66905155	Q9BQE3
RAIVDALPPCESAC*TVPTDVKWFHHQKN	3.667436828	Q15181
RLVSSPC*CIVTSTYGWTANMERI	3.667436828	P08238
KYTIVSATASDAAPLQYLAPYSGC*SMGEYFRD	3.666600125	P25705
RAYGSMC*AKC	3.658982803	P49207
KILLNACC*PGWVRT	3.658313517	P16152
RGLC*AIAQAESLRY	3.657376929	P23396
KVCLIGC*GFSTGYGSAVNVAKV	3.647185831	P07327
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KVPIPC*YLIALLVGALESRQ	3.643916481	P09960
KIC*EPGYSPTYKQ	3.641063919	P07858
KITVVGQVGMAC*AISILGKS	3.640202395	P07195
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KVGLTNYAAAYC*TGLLLARR	3.638851287	P46777
KC*CSGAIIVLTKS	3.637554109	B4DNK4
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RC*LHNFLTGDVPAEGAFTEDFQGLRA	3.632730905	G3V1A6
KGEELSC*EERN	3.63246699	P31947

KC*ELSSSVQTDINLPYLTMDSGPKH	3.629807983	P38646
KVGVNDFC*PMGFGVKR	3.628973726	P21810
RVFIMDNC*EELIPEYLNFIHG	3.624654903	P07900
RGC*TATLGNFAKA	3.622269714	P15880
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KVVMALGDYMGASCHAC*IGGTNVRA	3.614414284	P60842
RNILGGTVFREPIIC*KN	3.613500036	P48735
RLC*LISTFLEDGIRM	3.610412429	O15260
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RC*DNFTSSWRD	3.596734165	Q15149
KYMAC*CLLYRG	3.59625989	A6NHL2
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KSCFLCMVC*KK	3.589246617	P21291
KEKLC*YVALDFEQEMATAASSSSLEKS	3.58423742	P63261
RC*SEGVFLLTTTPRPVIVEPLEQLDDEDGLPEKL	3.578329636	P23246
NFKLLSHC*LLVTLAAHLPAEFTPAVHASLDFK	3.567287969	P69905
KLSSC*DSFTSTINELNHCLSLRT	3.563030001	P07814
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KGDLENAFLNLVQC*IQNKPLYFADRL	3.558481418	P07355
RC*EGINISGNFYRN	3.555302734	P40429
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KC*LSAAEEKY	3.546476576	P06753
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KDSMC*NEFSQIFQLCQFVMENSQNAPLVHATLETLRF	3.530699432	O14980
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KLC*YVALDFEQEMAMVASSSSLEKS	3.520011264	P0CG39

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RVV LPC*SVQEYQVGQLYSVAEASKN	3.518525034	P48739
KYLEC*SALTQRG	3.517287468	P63000
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KC*ESAFLSKR	3.507418189	P83731
KMYGISLC*QAILDETKGDYEKI	3.507393586	P04083
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KVC*LIGCGFSTGYGSAVNVAKV	3.50140056	P07327
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KGVVLGGC*GDKS	3.496748024	P80404
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KNLSDLIDLVPSLC*EDLLSSVDQPLKI	3.378949147	B1AK87
RYC*VQLSQQGLIGSVEEQLAQLRC	3.377655682	Q04695
RTSAVPSPC*GKY	3.375413488	P49748
KGQLLCPTC*SXS	3.374274531	Q9NZU5
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RHEPVGVC*GQIIPWNFPLVMQGWKL	3.362757461	P30837
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KSC*SSSCAVHDLIFWRD	3.359989248	O95197
KHFLSDTGMAC*RS	3.359537728	Q5TFE4
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KC*VVVG DGAVGKT	3.356493136	P60953

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RCPEALFQPC*FLGMESCGIHETTFSIMKS	3.313507513	Q6S8J3
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RNAFAC*FDEEATGTIQEDYLRE	3.303928371	O14950
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KEPC*VESLSQYFQTVTDYGDLMKQV	3.279638365	V9GYG9
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KNC*DKGQSFIDAPDSPATLAYRS	3.220611916	P53384
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KFDNLYC*CRE	3.160256613	O43865
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KVIIIQAC*RG	3.159358018	G3V169
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RTQC*ALAASKL	3.151492232	Q96QK1
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RAANILVGENLVC*KV	2.940916978	P12931
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KFSPLCQWLYLEAADIVESLGKPEC*EEFLPRG	2.868781915	A0AVT1
RYDLLFMPPSPFPGGMENPC*LTFVTPCLLAGDRS	2.867219084	Q9H4A4
RIYHPNINSNGSIC*LDILRS	2.864180558	P62837
RLGTVEELANLAFLC*SDYASWINGAVIKF	2.863053017	Q16698
RAGVC*AALAWPALQIAVENFGGVSQEKA	2.859266884	Q969E8
FC*MLMPEENFTADHPFLFFIRH	2.85865386	P30740
KNYDGDVQSDILAQFGSLGLMTSVLVC*PDGKT	2.856408352	P48735
KGC*LLYGPPTGKT	2.844141069	P62333
RTAGYGINILGMDPLSTPFDNEFYNGLC*NRD	2.821670429	P02748
KFLEGTSC*IAGVFDATKE	2.821033627	Q15149
RC*FLSWFCDDILSPNTKY	2.817000599	Q9NRW3
KLC*YVGYNIEQEQL	2.813335209	P61160
KFHFGDSL*THKGEIPALPPCKF	2.810014893	G3V0E4
KALNALC*DGLIDELNQALKT	2.805521266	P30084
KIC*KPLHELMQLEETPEEKQ	2.805206463	P68402
RLGTDESC*FNMILATRS	2.801355856	P20073
RVC*ENIPVLCGNKV	2.8007478	F5H018
KGETDEEYLWC*IEQTLYFKD	2.800492887	P23526
RNC*FASVFEKY	2.794779352	O15144
RYDLLFMPPSPFPGGMENPCLTFVTPC*LLAGDRS	2.791298128	Q9H4A4
KEGILSDEIYC*PPETAULLGSYAVQAKF	2.789322474	E7EQR4
KMIPC*DFLIPVQTQHPIRK	2.782853909	A0A0A0
KLFC*C*FPNSMVVEHPEFLKA	2.776158352	A0A0U1
RVQVSDPESTVAVAFTPTIPHC*SMATLIGLSIKV	2.773694283	J3KS95
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KC*PNPEEGESVLELSLRL	2.765257307	Q6PCE3
KTTISFALEEYLVSHAIPC*YSLDGDNVHR	2.763245155	O95340
RLVYVC*DPVLGDKWDGEGSMYVPEDLLPVYKE	2.756871502	O00764
KHTGPGILSMANAGPNTNGSQFFIC*TAKT	2.756673908	F8WE65
KGPAVGIDLGTYSYC*VGVFQHGV	2.751864388	E9PKE3
EQVEVDAQQC*MLEILDTAGTEQFTAMRD	2.751258701	F5GX62
KVVVAENFDEIVNNENKDVLIIFYAPWCGHC*KN	2.741954648	P30101
VSNASC*TTNCLAPLAKV	2.735154947	K7EP73

TEDENDEPIEIPSEDDGTVLLSTVTAQFPGAC*GLRY	2.733136548	Q13148
KETQILNC*ALDDIEWFVARL	2.731307614	H0YF37
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KAWNAYPYC*RT	2.719534416	P48739
RWFVTC*VRQ	2.718351592	A0A140
KMGVPYC*IIGK	2.716284123	Q5T8U2
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RGC*AFVTFTRRA	2.711276198	Q92879
RGGC*ASGLYPDAFAPVAQFVNWIDSIIQRS	2.710835208	P08246
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KIAVAQNC*YKV	2.694945629	P60174
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RLVTSPC*CIVTSTYGWTANMERI	2.657948595	P07900
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KQILLGIQELLNEPNIQDPAQAEAYTIYC*QNRV	2.645852626	P63279
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KISNITC*DSFKI	2.640473173	Q96FC7
KSVSAFAPICNPVLC*PWGKK	2.639985216	X6RA14
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KIAAYLQSDQFC*KM	2.627741062	P21266
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RSIC*TTVLELLDKY	2.61797238	P27348
KTNMICAGGDGVICTC*NGDSGGPLNCQASDGRW	2.616499647	P08218
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RDQGSCGSC*WAFGAVEAISDRI	2.551931812	P07858
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KNQISPFISQMC*NMLGLGDMNADQLASKL	2.550825192	O43681
RVSC*LGVTDDGMAVATGSWDSFLKI	2.547089314	E7EP32
RVELLHNPAFC*SLATTKR	2.545436033	P01024
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RAALEAC*HKG	2.54110233	P11766
KGC*PNEPNFGSLSALVYQHSIPLALPCKL	2.529660267	E9PGF5
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KC*ELENCPQFVVELHGI	2.517496601	Q06203
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RSVAFPCISTGVFGYPC*EAAAEIVLATLRE	2.517306482	Q9BQ69
KVDASVAVFC*EQNTLINTLIRK	2.514142049	P45954
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KITAFVPNDGC*LNFIENDEVLVAGFRK	2.49025687	P62266
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RAVGIWHCGSC*MKT	2.464571781	P61513
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KKPDC*DDWESGLNAMECALHLEKN	2.43741926	P02794
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RC*YQLPPGARG	2.435519618	P13716
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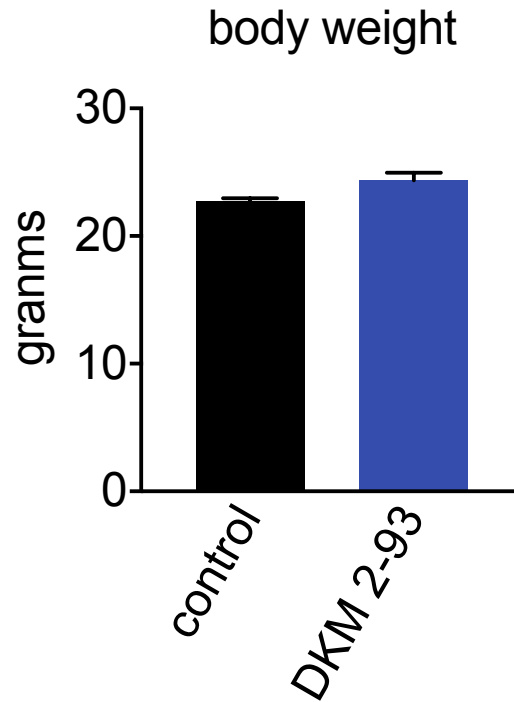
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RVFANAPDSAC*VIGLKK	0.398025792	P17858
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ASILNMPVTTLFYSC*FYHYTEAEGTFSSPVNLKKT	0.392366125	Q9H9C1
RFMTILC*TRS	0.384751527	P08133
KNFAMIGLGC*GEGGEIIVTDMDTIEKS	0.384748567	P22314
KQEVLGSMWISC*RGISGGIEDLLDDFDLC*APHLDSPEVGLVRE	0.384591717	Q149M9
RYC*PNSVLVIIDVKPKD	0.384245179	P51665
FTDQLKCNLSVINLDPEINPEGFC*ILLDFMYTSRL	0.371232455	P41182
KAGYDGESIGNC*PFSQRL	0.367367481	Q96NY7
KDYNVLVMDLLGPSLEDLFNFC*SRR	0.360729539	P48729
KFYAPWCTHC*KEMAPAWEALEKY	0.343958794	Q13087
KDYAVSTVPVADGLHLKSFC*SMAGPNLIAIGSSESAQKA	0.328424482	B4DYP1
KADFC*IIHYAGKV	0.321779311	P35579
RQYFVQWC*ADRN	0.318017605	Q9Y3Z3
RCPGGDTCVC*STVAEFSRQ	0.316191536	Q02817

KTALTLIAVSSCILAMVCGSQMSC*PLTVKV	0.308787792	O75129
RAFAWMMGDGVLYGALDC*GRPDSSLSEERV	0.307855234	Q9P253
RQMFEPVSC*TFTYLLGDRE	0.299828498	MOQXB5
VQRAVC*MLSNNTAIAEAWARL	0.287636774	Q71U36
RALPLDLCSCSSSLVVTLWLLGNLFPLLAGFLLC*IWH	0.284580841	F8WCE5
RGLDGIPFTVDATSIQHC*IEDFHRK	0.280684421	H7BZE2
KTVTDMLMTIC*ARI	0.280606447	Q9Y490
KINGC*YEALSGGATTEGFEDFTGGIAEWYELKK	0.274937898	P17655
RSC*QTALVEILDVIVRS	0.270835365	Q9NSE4
KLLAASGSNSPTRSESEPEAATC*SLPSDLTRA	0.257700078	Q9NS37
RDSYC*SYMGHFDLLNYFAIAENESKA	0.249485436	Q9BWJ5
SMAVAMAIYVAGGVSGGHINPAVSLAMC*LFGRM	0.243074799	H0YK62
RAAEC*NIVVTQPRR	0.239712728	Q08211
KVWQDAC*SPLPKTQANHGAHQFGDIPTSHLLFKL	0.238067464	Q16787
KC*GETAFIAPQCEMPIEWVCRR	0.237332384	P22234
KMQHLNPDQPIPEQITTDITPEC*LVSPRY	0.236229029	Q96AC1
RYFQC*NPEALSSSEDGAHTLTALMLLNTDLHGHNIGKR	0.225965721	A5PKW4
RQRQC*NNPPPQNGGSPCSGPASETLDG*S	0.22210722	P07358
KVLC*GAGPIGMVTLVAKA	0.217746326	H0YLA4
KC*LSVMEAKV	0.21715786	P49588
RTNLLQVC*ERI	0.211133491	P18206
RKESESC*DC*LQGFQLTHSLGGGTGSGMGTLISKI	0.210251882	Q9BVA1
KIC*DPYAWLEDPDSEQTKA	0.194362704	P48147
RDLYRDVMLENYSNLISLDESSC*VTKK	0.18927815	Q7Z3V5
KIC*DQWDALGSLTHSRR	0.183061223	O43707
RGDGPIC*LVLAPTRE	0.181144981	Q92841
KEEVHIQDVGGLIC*RACNLSLPHGCLLDLGTCAEPGQYCKE	0.179451381	Q5W0N0
KSNC*VLEAFGNAKT	0.168857309	J3KRL0
RSCFHIIICLVGTISLACNDMTPEQMANTVNC*SSPERH	0.152359129	P21781
KLPLVTPHTQC*RL	0.152175964	P62191
RILLNTDVAPFISDFTAFQNVVLLNMLDNVDKISIGYLC*TEKS	0.148032135	Q6P5S2
RSITC*WTLSTRY	0.14691925	Q92973
KLEGLTGPSVDVEVPDVELEC*PDAKL	0.140393241	Q09666
RIGAFGYMEC*SAKT	0.13814807	P61586
KMFC*QC*DSCGMSFNTVSELVSKINYLKGG	0.129090557	Q06730
KGWQRALAIVC*DFKL	0.125064565	Q5VT25
KTFVDFFSQC*LHEEYRS	0.124679884	Q53GQ0
KHTSALCNSC*RL	0.121697732	Q9Y490
RIGQNC*SIGPNVSLGPGVVVEDGVCIRR	0.121173786	Q9Y5P6

KVTQNLPMKEGC*TEVSLLRV	0.115136143	Q1KMD3
RDISILQCHGDC*DPLVPLMFGSLTVEKL	0.110300646	O75608
KELDWLKDDLC*TGVVVSLCGSMIPELSQGQLQVTRG	0.109419845	H3BTI6
RVLTG*VEGMNPLLEQAIRE	0.106078061	Q86WV5
KASLNGADIYSGCC*TLKI	0.10378978	P14866
KHELQANC*YEEVKDRC	0.097713886	E9PK25
KGLQC*NEGIQRMPKI	0.085356423	Q02763
RASGAVGLSYGAHSNLC*INQLVRN	0.084259628	A0A0A0
KEMEHNTVC*AAGTSPVGEIGEEKILPTSETKQ	0.081227312	P18583
RC*PEALFQPCFLGMESCGIHETTFNSIMKS	0.080399812	P0CG39
RMVRPNQDGTLIASC*SNDQTVRV	0.077227383	P43034
RNC*ATFNPTDDLVLNDGVLWDVRS	0.076779558	Q9Y4B6
KGC*CFVTFYTRK	0.066370962	Q5VZZ6
KEAQAAMEGLNGQDLMGPISVDWC*FVRG	0.06546152	Q9Y5S9
RPPVPGQCRLLASLPFVLVAGLTFFLPSGAICFTYC*RI	0.061928324	P50406
RIGNNFMDGLKDGILC*EFINKL	0.060308908	P51911
RRLSSLDGC*SSAWWPSWC*S	0.054595285	Q9HA72
RC*TITGLTMGQQYFVQVSAYNMKGWGAQTTTPAC*ASPSNWKD	0.053411899	H3BM45
KGAC*YGD DAC*FVARH	0.051964546	Q8NI37
RYTDINMEDFKCPIFLGC*IICVTGLCGLDRK	0.05031644	Q92547
KECEHC*DC*LQGFQLTHSLGGGTGSGMGTLLISKI	0.040328679	K7ESM5
KITYVENQTAMELEEQTULTC*EASGDPIP	0.030259557	H7BYX6
RIWSVPNASC*VQVVRA	0.03005841	Q9UMS4
RMTLYHC*IVLLENAALTGFWYSSRN	0.02303959	Q5GH72
KFAPVC*SICENPIIPRD	0.022044368	Q8WUP2
KDNTIEHLLPLFLAQLKDEC*PEVR	0.02160515	P30153
KLNLSHKGIGEPC*RR	0.0190096	A0A087
RNLVC*SALLTGSNHRK	0.016708117	Q68DQ2
RMWELGIPLDGTVCFGQLLGMCD*DHVSLALGQAGYVVYKS	0.008716312	Q9UF12
KLAQLIATC*PPSKS	0.006248235	Q9NR48

Appendix 1-5. Body weight of mice after tumor xenograft study. PaCa2 tumor xenograft growth in immune-deficient SCID mice. Mice were subcutaneously injected with PaCa2 cells to initiate the tumor xenograft study and treatments of mice were initiated with vehicle or DKM 2-93 (50 mg/kg ip, once per day) three days after injection of cancer cells. Body weight was measured at the end of the tumor xenograft study. Data are represented as mean \pm sem, n=8 mice/group.



Appendix 2-1. Synthesis of cysteine-reactive covalent ligand library

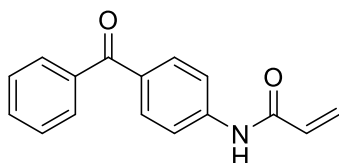
Chemicals and reagents were purchased from major commercial suppliers and used without further purification. Reactions were performed under a nitrogen atmosphere unless otherwise noted. Silica gel flash column chromatography was performed using EMD or Sigma Aldrich silica gel 60 (230-400 mesh). Proton and carbon nuclear magnetic resonance (^1H NMR and ^{13}C NMR) data was acquired on a Bruker AVB 400, AVQ 400, or AV 600 spectrometer at the University of California, Berkeley. High resolution mass spectrum were obtained from the QB3 mass spectrometry facility at the University of California, Berkeley using positive or negative electrospray ionization (+ESI or -ESI). Yields are reported as a single run.

General Procedure A

The amine (1 eq.) was dissolved in DCM (5 mL/mmol) and cooled to 0°C. To the solution was added acryloyl chloride (1.2 eq.) followed by triethylamine (1.2 eq.). The solution was warmed to room temperature and stirred overnight. The solution was then washed with brine and the crude product was purified by silica gel chromatography (and recrystallization if necessary) to afford the corresponding acrylamide.

General Procedure B

The amine (1 eq.) was dissolved in DCM (5 mL/mmol) and cooled to 0°C. To the solution was added chloroacetyl chloride (1.2 eq.) followed by triethylamine (1.2 eq.). The solution was warmed to room temperature and stirred overnight. The solution was then washed with brine and the crude product was purified by silica gel chromatography (and recrystallization if necessary) to afford the corresponding chloroacetamide.



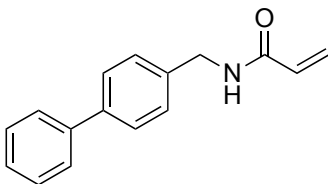
N-(4-benzoylphenyl)acrylamide (DKM 2-117)

Following **General Procedure A** starting from 4-aminobenzophenone (587 mg, 3.0 mmol), product was obtained after silica gel chromatography (10% to 30% ethyl acetate in hexanes) in 37% yield as a yellow solid (275 mg).

^1H NMR (400MHz, CDCl_3): δ 8.77 (s, 1H), 7.80-7.73 (m, 6H), 7.57 (tt, J = 1.5, 7.4 Hz, 1H), 7.46 (t, J = 7.6 Hz, 2H), 6.46 (dd, J = 1.6 16.9 Hz, 1H), 6.37 (dd, J = 9.9, 16.9 Hz, 1H), 5.75 (dd, J = 1.6, 9.9 Hz, 1H).

^{13}C NMR (100MHz, CDCl_3): δ 196.3, 164.4, 142.3, 137.8, 133.0, 132.5, 131.7, 131.0, 130.0, 128.8, 128.4, 119.3.

HRMS (+ESI): Calculated: 252.1019 ($\text{C}_{16}\text{H}_{14}\text{NO}_2$). Observed: 252.1014.



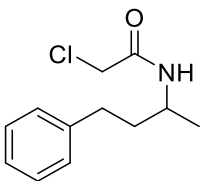
N-([1,1'-biphenyl]-4-ylmethyl)acrylamide (DKM 2-37)

Following **General Procedure A** starting from 4-phenylbenzylamine (552 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 80% ethyl acetate in hexanes) in 10% yield as an off-white solid (73 mg).

¹H NMR (400MHz, CDCl₃): δ 7.58-7.55 (m, 4H), 7.44 (t, *J* = 7.5 Hz, 2H), 7.38-7.33 (m, 3H), 6.35 (dd, *J* = 1.3, 17.0 Hz, 1H), 6.13 (dd, *J* = 10.3, 17.0 Hz, 1H), 6.01 (s, 1H), 5.68 (dd, *J* = 1.3, 10.3 Hz, 1H), 4.56 (d, *J* = 5.8 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.5, 140.77, 140.73, 137.2, 130.7, 128.9, 128.5, 127.6, 127.5, 127.2, 127.1, 43.5.

HRMS (+ESI): Calculated: 238.1226 (C₁₆H₁₆NO). Observed: 238.1224.



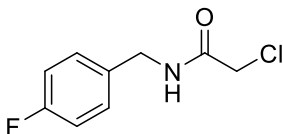
2-Chloro-N-(4-phenylbutan-2-yl)acetamide (DKM 2-76)

Following **General Procedure B** starting from 1-methyl-3-phenylpropylamine (614 mg, 4.1 mmol) product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 81% yield as a white solid (662 mg).

¹H NMR (400MHz, CDCl₃): δ 7.34-7.31 (m, 2H), 7.24-7.21 (m, 3H), 6.55 (d, *J* = 7.4 Hz, 1H), 4.15-4.07 (m, 1H), 4.04 (s, 2H), 2.70 (t, *J* = 8.2 Hz, 2H), 1.89-1.83 (m, 2H), 1.26 (d, *J* = 6.4 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.1, 141.3, 128.4, 128.2, 125.9, 45.7, 42.7, 381, 32.3, 20.7.

HRMS (+ESI): Calculated: 226.0993 (C₁₂H₁₇ClNO). Observed: 226.0992.



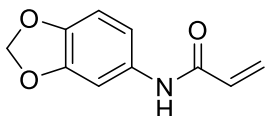
2-chloro-N-(4-fluorobenzyl)acetamide (DKM 2-80)

Following **General Procedure B** starting from 4-fluorobenzylamine (369 mg, 2.9 mmol) product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 77% yield as a white solid (452 mg).

¹H NMR (400MHz, CDCl₃): δ 7.28-7.24 (m, 2H), 7.05-7.01 (m, 2H), 6.97 (s, 1H), 4.45 (d, *J* = 5.6 Hz, 2H), 4.09 (s, 2H).

¹³C NMR (100MHz, CDCl₃): δ 166.1, 163.6, 161.2, 133.20, 133.17, 129.64, 129.56, 115.9, 115.7, 43.2, 42.7.

HRMS (-ESI): Calculated: 200.0284 (C₉H₈NOCIF). Observed: 200.0284.



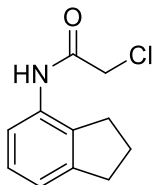
N-(benzo[d][1,3]dioxol-5-yl)acrylamide (DKM 2-86)

Following **General Procedure A** starting from 3,4-(methylenedioxy)aniline (486 mg, 2.9 mmol), product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 68% yield as a white solid (438 mg).

¹H NMR (400MHz, (CD₃)₂SO): δ 10.05 (s, 1H), 7.39 (d, *J* = 2.0 Hz, 1H), 7.02 (dd, *J* = 2.0, 8.4 Hz, 1H), 6.87 (d, *J* = 8.4 Hz, 1H), 6.38 (dd, *J* = 10.1, 17.0 Hz, 1H), 6.22 (dd, *J* = 2.1, 17.0 Hz, 1H), 5.99 (s, 2H), 5.72 (dd, *J* = 2.1, 10.1 Hz, 1H).

¹³C NMR (100MHz, (CD₃)₂SO): δ 162.8, 147.0, 143.1, 133.4, 131.8, 126.5, 112.1, 108.1, 101.4, 101.0.

HRMS (+ESI): Calculated: 192.0655 (C₁₀H₁₀NO₃). Observed: 192.0651.



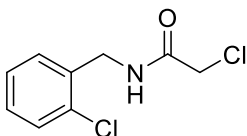
2-chloro-N-(2,3-dihydro-1H-inden-4-yl)acetamide (DKM 2-91)

Following **General Procedure B** starting from 4-aminoindan (372 mg, 2.8 mmol) product was obtained after silica gel chromatography (0% to 40% ethyl acetate in hexanes) in 49% yield as an off-white solid (289 mg).

¹H NMR (400MHz, CDCl₃): δ 8.19 (s, 1H), 7.74 (d, *J* = 8.4 Hz, 1H), 7.15 (t, *J* = 7.8 Hz, 1H), 7.05 (d, *J* = 7.6 Hz, 1H), 4.16 (s, 2H), 2.94 (t, *J* = 7.6 Hz, 2H), 2.82 (t, *J* = 7.4 Hz, 2H), 2.10 (quint, *J* = 7.5 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 163.8, 145.5, 134.5, 132.8, 127.3, 121.6, 118.5, 43.1, 33.2, 29.8, 24.8.

HRMS (+ESI): Calculated: 210.0680 (C₁₁H₁₃ClNO). Observed: 210.0680.



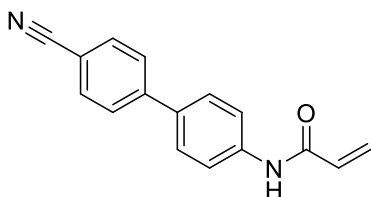
2-Chloro-N-(2-chlorobenzyl)acetamide (DKM 2-94)

Following **General Procedure B** starting from 2-chlorobenzylamine (432 mg, 3.1 mmol) product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 67% yield as a white solid (443 mg).

$^1\text{H NMR}$ (400MHz, CDCl_3): δ 7.36-7.18 (m, 5H), 4.51 (d, J = 6.4 Hz, 2H), 4.01 (s, 2H).

$^{13}\text{C NMR}$ (100MHz, CDCl_3): δ 166.1, 134.7, 133.5, 129.8, 129.5, 129.1, 127.1, 42.5, 41.6.

HRMS (-ESI): Calculated: 215.9988 ($\text{C}_9\text{H}_8\text{NOCl}_2$). Observed: 215.9988.



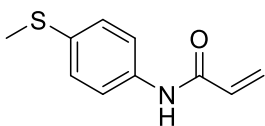
N-(4'-cyano-[1,1'-biphenyl]-4-yl)acrylamide (DKM 2-98)

Following **General Procedure A** starting from 4-(4-aminophenyl)benzotrile (387 mg, 2.0 mmol), product was obtained after silica gel chromatography (1% to 2% ethyl methanol in DCM) in 70% yield as a yellow solid (348 mg).

$^1\text{H NMR}$ (600MHz, $(\text{D}_3\text{C})_2\text{CO}$): 9.52 (s, 1H), 7.90-7.89 (m, 2H), 7.87-7.86 (m, 2H), 7.84-7.82 (m, 2H), 7.73-7.71 (m, 2H), 6.49 (dd, J = 10.0, 16.9 Hz, 1H), 6.39 (dd, J = 2.0, 16.9 Hz, 1H), 5.76 (dd, J = 2.0, 10.0 Hz, 1H).

$^{13}\text{C NMR}$ (150MHz, $(\text{D}_3\text{C})_2\text{CO}$): δ 164.3, 145.7, 140.9, 134.8, 133.6, 132.7, 128.5, 128.2, 127.6, 120.8, 119.5, 111.3.

HRMS (-ESI): Calculated: 247.0877 ($\text{C}_{16}\text{H}_{11}\text{N}_2\text{O}$). Observed: 247.0875.



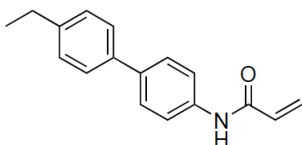
N-(4-(methylthio)phenyl)acrylamide (DKM 3-10)

Following **General Procedure A** starting from 4-(methylthio)aniline (405 mg, 2.9 mmol), product was obtained after silica gel chromatography (10% to 40% ethyl acetate in hexanes) in 64% yield as a clear oil (362 mg).

$^1\text{H NMR}$ (400MHz, MeOD): δ 7.59-7.56 (m, 2H), 7.26-7.22 (m, 2H), 6.42 (dd, J = 9.6, 17.0 Hz, 1H), 6.34 (dd, J = 2.3, 17.0 Hz, 1H), 5.75 (dd, J = 2.3, 9.6 Hz, 1H), 2.45 (s, 3H).

¹³C NMR (100MHz, MeOD): δ 166.0, 137.2, 135.4, 132.4, 128.6, 127.7, 121.9, 16.4.

HRMS (+ESI): Calculated: 194.0634 (C₁₀H₁₂NOS). Observed: 194.0631.



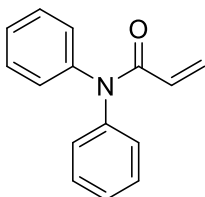
N-(4'-ethyl-[1,1'-biphenyl]-4-yl)acrylamide (DKM 3-16)

Following **General Procedure A** starting from 4-amino-4-ethylbiphenyl (386 mg, 2.0 mmol), product was obtained after silica gel chromatography (10% to 70% ethyl acetate in hexanes) in 65% yield as a white solid (164 mg).

¹H NMR (400MHz, (CD₃)₂CO): δ 7.82 (d, *J* = 8.2 Hz, 2H), 7.62-7.59 (m, 2H), 7.58-7.54 (m, 2H), 7.29 (d, *J* = 8.2 Hz, 2H), 6.47 (dd, *J* = 9.9, 16.9 Hz, 1H), 6.36 (dd, *J* = 2.2, 16.9 Hz, 1H), 5.72 (dd, *J* = 2.2, 9.9 Hz, 1H), 2.67 (q, *J* = 7.6 Hz, 2H), 1.24 (t, *J* = 7.6 Hz, 3H).

¹³C NMR (100MHz, (CD₃)₂CO): δ 164.1, 144.0, 139.5, 13.9, 137.1, 132.9, 129.3, 127.9, 127.4, 127.2, 120.7, 29.2, 16.2.

HRMS (+ESI): Calculated: 252.1383 (C₁₇H₁₈NO). Observed: 252.1379.



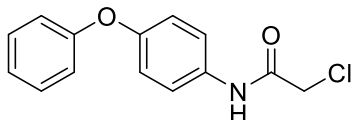
N,N-diphenylacrylamide (DKM 3-70)

A solution of diphenylamine (347 mg, 2.1 mmol) in DCM (10 mL) was cooled to 0 °C. To the solution was added acryloyl chloride (222 mg, 2.5 mmol) followed by triethylamine (279 mg, 2.8 mmol). The solution was allowed to warm to room temperature and stirred overnight. The solution was washed with brine and citric acid and the crude product was purified via silica gel chromatography (20% to 60% ethyl acetate in hexanes) to afford the product in 24% yield as a dark yellow oil (112 mg).

¹H NMR (400MHz, CDCl₃): δ 7.43-7.28 (m, 10H), 6.52 (dd, *J* = 2.0, 16.8 Hz, 1H), 6.25 (dd, *J* = 10.2, 16.8 Hz, 1H), 5.67 (dd, *J* = 1.8, 10.2 Hz, 1H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 142.6, 129.7, 129.3, 128.5, 127.0.

HRMS (+ESI): Calculated: 246.0889 (C₁₅H₁₃NONa). Observed: 246.0887.



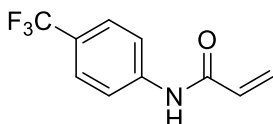
2-Chloro-*N*-(4-phenoxyphenyl)acetamide (TRH 1-23)

Following **General Procedure B** starting from 4-phenoxyaniline (370 mg, 2.0 mmol) product was obtained after silica gel chromatography (10% to 30% ethyl acetate in hexanes) in 46% yield as a white solid (315 mg).

¹H NMR (400MHz, CDCl₃): δ 8.42 (s, 1H), 7.52-7.48 (m, 2H), 7.35-7.31 (m, 2H), 7.10 (t, *J* = 7.3 Hz, 1H), 7.01-6.98 (m, 4H), 4.17 (s, 2H).

¹³C NMR (100MHz, CDCl₃): δ 164.2, 157.2, 154.4, 132.1, 129.8, 123.4, 122.2, 119.4, 118.7, 42.9.

HRMS (-ESI): Calculated: 260.0484 (C₁₄H₁₁NO₂Cl). Observed: 260.0482.



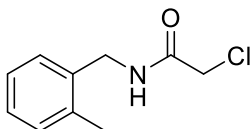
N-(4-(trifluoromethyl)phenyl)acrylamide (TRH 1-50)

Following **General Procedure A** starting from 4-(trifluoromethyl)aniline (328 mg, 2.0 mmol), product was obtained after silica gel chromatography (10% to 30% ethyl acetate in hexanes) in 55% yield as a white solid (239 mg).

¹H NMR (400MHz, MeOD): δ 7.78 (d, *J* = 8.3 Hz, 2H), 7.55 (d, *J* = 8.6 Hz, 2H), 6.44-6.32 (m, 2H), 5.75 (dd, *J* = 8.4, 2.8 Hz, 1H).

¹³C NMR (100MHz, MeOD): δ 166.3, 143.3, 132.1, 128.6, 127.04, 127.00, 126.97, 126.93, 126.6, 124.3, 120.9.

HRMS (-ESI): Calculated: 214.0485 (C₁₀H₇NOF₃). Observed: 214.0484.



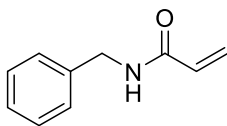
2-Chloro-*N*-(2-methylbenzyl)acetamide (TRH 1-55)

Following **General Procedure B** starting from 2-methylbenzylamine (239 mg, 2.0 mmol) product was obtained after silica gel chromatography (30% ethyl acetate in hexanes) and recrystallization from 5% ethyl acetate in hexanes in 64% yield as a white solid (191 mg).

¹H NMR (400 MHz, CDCl₃): δ 7.25-7.19 (m, 4H), 6.85 (s, 1H), 4.46 (d, *J* = 5.6 Hz, 2H), 4.04 (s, 2H), 2.33 (s, 3H).

^{13}C NMR (100 MHz, CDCl_3): δ 165.8, 136.4, 135.0, 130.6, 128.4, 128.0, 126.3, 42.6, 42.0, 19.0.

HRMS (-ESI): Calculated: 196.0535 ($\text{C}_{10}\text{H}_{11}\text{NOCl}$). Observed: 196.0534.



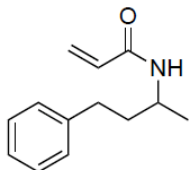
N-benzylacrylamide (DKM 2-31)

Following **General Procedure A** starting from benzylamine (334 mg, 3.1 mmol), product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 75% yield as a white solid (376 mg).

^1H NMR (400MHz, CDCl_3): δ 7.28-7.18 (m, 6H), 6.19-6.16 (m, 2H), 5.53 (dd, J = 4.6, 7.3 Hz, 1H), 4.36 (d, J = 5.9 Hz, 2H).

^{13}C NMR (100MHz, CDCl_3): δ 165.8, 138.1, 130.8, 128.6, 127.7, 127.3, 126.5, 43.5.

HRMS (+ESI): Calculated: 162.0913 ($\text{C}_{10}\text{H}_{12}\text{NO}$). Observed: 162.0912.



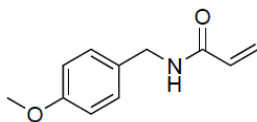
N-(4-phenylbutan-2-yl)acrylamide (DKM 2-32)

Following **General Procedure A** starting from 1-methyl-3-phenylpropylamine (606 mg, 4.0 mmol), product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 89% yield as a clear oil (735 mg).

^1H NMR (400MHz, CDCl_3): δ 7.32-7.29 (m, 2H), 7.23-7.20 (m, 3H), 6.84 (d, J = 8.4 Hz, 1H), 6.36-6.24 (m, 2H), 5.64 (dd, J = 2.8, 9.2 Hz, 1H), 4.21-4.14 (m, 1H), 2.70 (t, J = 7.8 Hz, 2H), 1.93-1.77 (m, 2H), 1.24 (d, J = 6.4 Hz, 3H).

^{13}C NMR (100MHz, CDCl_3): δ 165.1, 141.7, 131.3, 128.3, 128.2, 125.80, 125.77, 45.1, 38.4, 32.5, 20.8.

HRMS (+ESI): Calculated: 204.1383 ($\text{C}_{13}\text{H}_{18}\text{NO}$). Observed: 204.1380.



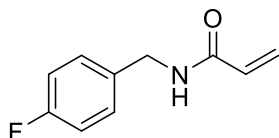
N-(4-methoxybenzyl)acrylamide (DKM 2-33)

Following **General Procedure A** starting from 4-methoxybenzylamine (424 mg, 3.1 mmol), product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 60% yield as a clear oil (343 mg).

¹H NMR (400MHz, CDCl₃): δ 7.14 (d, *J* = 8.8 Hz, 2H), 6.85 (s, 1H), 6.79 (d, *J* = 8.4 Hz, 2H), 6.24-6.14 (m, 2H), 5.56 (dd, *J* = 2.0, 9.6 Hz, 1H), 4.33 (d, *J* = 5.6 Hz, 2H), 3.73 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.6, 158.9, 130.9, 130.3, 129.1, 126.4, 113.9, 55.2, 42.9.

HRMS (+ESI): Calculated: 192.1019 (C₁₁H₁₄NO₂). Observed: 192.1017.



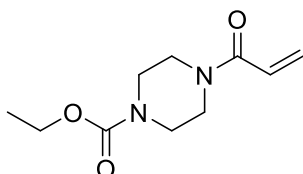
N-(4-fluorobenzyl)acrylamide (DKM 2-34)

Following **General Procedure A** starting from 4-fluorobenzylamine (368 mg, 2.9 mmol), product was obtained after silica gel chromatography (0% to 60% ethyl acetate in hexanes) in 52% yield as an off-white solid (276 mg).

¹H NMR (400MHz, CDCl₃): δ 7.24-7.19 (m, 2H), 6.97 (t, *J* = 8.5 Hz, 2H), 6.42 (s, 1H), 6.27 (d, *J* = 17.0 Hz, 1H), 6.12 (dd, *J* = 17.0, 10.2 Hz, 1H), 5.63 (d, *J* = 10.2 Hz, 1H), 4.42 (d, *J* = 5.8 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.7, 163.5, 134.0, 130.6, 129.6, 129.5, 127.0, 115.7, 115.5, 43.0.

HRMS (+ESI): Calculated: 180.0819 (C₁₀H₁₁NOF). Observed: 180.0818.



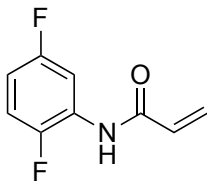
Ethyl 4-acryloylpiperazine-1-carboxylate (DKM 2-39)

Following **General Procedure A** starting from ethyl 1-piperazinecarboxylate (477 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 70% ethyl acetate in hexanes) in 58% yield as a yellow oil (372 mg).

¹H NMR (400MHz, CDCl₃): δ 6.46 (dd, *J* = 10.5, 16.8 Hz, 1H), 6.18 (dd, *J* = 1.9, 16.8 Hz), 5.60 (dd, *J* = 1.9, 10.5 Hz), 4.03 (q, *J* = 7.1 Hz, 2H), 3.54 (s, 2H), 3.44 (s, 2H), 3.39-3.36 (m, 4H), 1.15 (t, *J* = 7.1 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.3, 155.1, 128.2, 127.1, 61.5, 45.4, 43.6, 43.3, 41.5, 14.5.

HRMS (+ESI): Calculated: 213.1234 (C₁₀H₁₇N₂O₃). Observed: 213.1232.



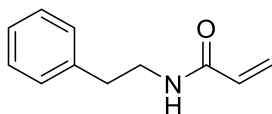
N-(2,5-difluorophenyl)acrylamide (DKM 2-40)

Following **General Procedure A** starting from 2,5-difluoroaniline (369 mg, 2.9 mmol), product was obtained after silica gel chromatography (0% to 15% ethyl acetate in hexanes) in 27% yield as a white solid (141 mg).

¹H NMR (400MHz, (CD₃)₂CO): δ 9.26 (s, 1H), 8.29-8.24 (m, 1H), 7.24-7.18 (m, 1H), 6.90-6.84 (m, 1H), 6.67 (dd, *J* = 10.2, 16.9 Hz, 1H), 6.41 (dd, *J* = 1.9, 16.9 Hz, 1H), 5.79 (dd, *J* = 1.9, 10.2 Hz, 1H).

¹³C NMR (100MHz, (CD₃)₂CO): δ 164.6, 160.4, 151.0, 148.7, 132.0, 128.9, 128.8, 128.5, 116.7, 116.6, 116.5, 116.4, 111.1, 111.0, 110.8, 110.7, 110.0, 109.7.

HRMS (+ESI): Calculated: 184.0568 (C₉H₈ F₂NO). Observed: 184.0567.



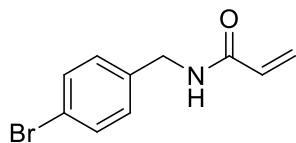
N-phenethylacrylamide (DKM 2-42)

Following **General Procedure A** starting from phenylethylamine (367 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 85% yield as a yellow oil (450 mg).

¹H NMR (400MHz, CDCl₃): δ 7.30-7.18 (m, 5H), 6.63 (s, 1H), 6.25 (dd, *J* = 1.8, 17.0 Hz, 1H), 6.13 (dd, *J* = 10.0, 17.0 Hz 1H), 5.59 (dd, *J* = 1.6, 10.0 Hz, 1H), 3.56 (q, *J* = 6.8 Hz, 2H), 2.85 (t, *J* = 7.3 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 138.8, 131.0, 128.7, 128.6, 126.4, 126.1, 40.8, 35.6.

HRMS (+ESI): Calculated: 176.1070 (C₁₁H₁₄NO). Observed: 176.1068.



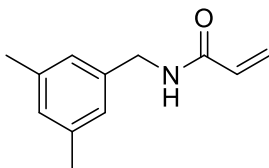
N-(4-bromobenzyl)acrylamide (DKM 2-43)

Following **General Procedure A** starting from 4-bromobenzylamine (535 mg, 2.9 mmol), product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 59% yield as a white solid (407 mg).

¹H NMR (400MHz, CDCl₃): δ 7.37 (d, *J* = 8.4 Hz, 2H), 7.07 (d, *J* = 8.4 Hz, 2H), 7.00 (s, 1H), 6.24-6.10 (m, 2H), 5.59 (dd, *J* = 2.0, 9.7 Hz, 1H), 4.32 (d, *J* = 6.0 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.9, 137.2, 131.7, 130.6, 129.4, 126.9, 121.2, 42.8.

HRMS (+ESI): Calculated: 240.0019 (C₁₀H₁₁BrNO). Observed: 240.0016.



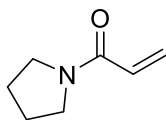
N-(3,5-dimethylbenzyl)acrylamide (DKM 2-47)

Following **General Procedure A** starting from 3,5-dimethylbenzylamine (257 mg, 1.9 mmol), product was obtained after silica gel chromatography (0% to 40% ethyl acetate in hexanes) in 77% yield as a white solid (276 mg).

¹H NMR (400MHz, CDCl₃): δ 6.89-6.87 (m, 4H), 6.26 (dd, *J* = 2.1, 17.0 Hz, 1H), 6.18 (dd, *J* = 9.7, 17.0 Hz, 1H) 5.59 (dd, *J* = 2.1, 9.7 Hz, 1H), 4.35 (d, *J* = 6.0 Hz, 2H), 2.28 (s, 6H).

¹³C NMR (100MHz, CDCl₃): δ 165.6, 138.1, 138.0, 130.9, 129.0, 126.3, 125.6, 43.4, 12.2.

HRMS (+ESI): Calculated: 190.1226 (C₁₂H₁₆NO). Observed: 190.1225.



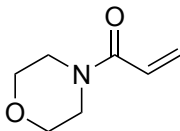
1-(pyrrolidin-1-yl)prop-2-en-1-one (DKM 2-48)

Following **General Procedure A** starting from pyrrolidine (223 mg, 3.1 mmol), product was obtained after silica gel chromatography (0% to 80% ethyl acetate in hexanes) in 38% yield as a pale yellow oil (148 mg).

¹H NMR (400MHz, CDCl₃): δ 6.40 (dd, *J* = 10.0, 16.8 Hz, 1H), 6.29 (dd, *J* = 2.4, 16.8 Hz, 1H), 5.60 (dd, *J* = 2.4, 10.0 Hz, 1H), 3.48 (t, *J* = 6.8 Hz, 4H), 1.91 (quint, *J* = 6.7 Hz, 2H), 1.82 (quint, *J* = 6.7 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 164.4, 128.8, 127.2, 46.6, 45.9, 26.1, 24.3.

HRMS (+ESI): Calculated: 126.0913 (C₇H₁₂NO). Observed: 126.0912.



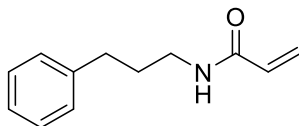
1-morpholinoprop-2-en-1-one (DKM 2-49)

Following **General Procedure A** starting from morpholine (273 mg, 3.1 mmol), product was obtained after silica gel chromatography (0% to 80% ethyl acetate in hexanes) in 46% yield as a yellow oil (205 mg).

¹H NMR (400MHz, CDCl₃): δ 6.45 (dd, *J* = 10.5, 16.8 Hz, 1H), 6.20 (dd, *J* = 1.9, 16.8 Hz, 1H), 5.61 (dd, *J* = 1.9, 10.5 Hz, 1H), 5.38 (s, 6H), 3.46 (s, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.3, 128.1, 126.9, 66.6, 46.0, 42.1.

HRMS (+ESI): Calculated: 142.0863 (C₇H₁₂NO₂). Observed: 142.0861.



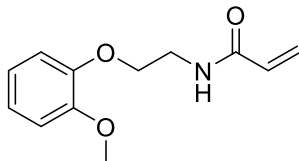
N-(3-phenylpropyl)acrylamide (DKM 2-50)

Following **General Procedure A** starting from 3-phenyl-1-propylamine (275 mg, 2.0 mmol), product was obtained after silica gel chromatography (0% to 60% ethyl acetate in hexanes) in 58% yield as a yellow oil (223 mg).

¹H NMR (400MHz, CDCl₃): δ 7.29-7.25 (m, 2H), 7.20-7.16 (m, 3H), 6.99 (s, 1H), 6.29-6.17 (m, 2H), 5.59 (dd, *J* = 2.6, 9.0 Hz, 1H), 3.34 (q, *J* = 6.7 Hz, 2H), 2.65 (t, *J* = 7.6 Hz, 2H), 1.87 (quint, *J* = 7.4 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 166.0, 141.4, 131.1, 128.33, 128.26, 125.9, 39.2, 33.2, 31.0.

HRMS (+ESI): Calculated: 190.1226 (C₁₂H₁₆NO). Observed: 190.1225.



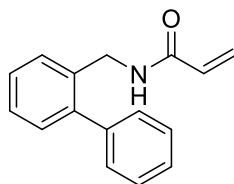
N-(2-(2-methoxyphenoxy)ethyl)acrylamide (DKM 2-58)

Following **General Procedure A** starting from 2-(2-methoxyphenoxy)ethanamine (509 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 70% yield as a yellow oil (470 mg).

¹H NMR (400MHz, CDCl₃): δ 6.95-6.84 (m, 4H), 6.77 (s, 1H), 6.26 (d, *J* = 17.1 Hz, 1H), 6.11 (dd, *J* = 10.2, 17.1 Hz, 1H), 5.59 (d, *J* = 10.2 Hz, 1H), 4.07 (t, *J* = 5.2 Hz, 2H), 3.79 (s, 3H), 3.69 (q, *J* = 5.4 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.7, 149.6, 147.7, 130.8, 126.4, 122.1, 121.0, 114.8, 111.8, 68.5, 55.7, 38.9.

HRMS (+ESI): Calculated: 244.0944 (C₁₂H₁₅NO₃Na). Observed: 244.0940.



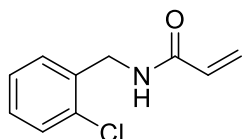
N-([1,1'-biphenyl]-2-ylmethyl)acrylamide (DKM 2-59)

Following **General Procedure A** starting from 2-phenylbenzylamine (202 mg, 1.1 mmol), product was obtained after silica gel chromatography (0% to 40% ethyl acetate in hexanes) in 70% yield as a yellow oil (184 mg).

¹H NMR (400MHz, CDCl₃): δ 7.41-7.22 (m, 9H), 6.16 (dd, *J* = 1.2, 17.2 Hz, 1H), 6.03-5.97 (m, 2H), 5.55 (dd, *J* = 1.2, 10.0 Hz, 1H), 4.44 (d, *J* = 5.6 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.3, 141.6, 140.6, 135.2, 130.6, 130.2, 129.0, 128.7, 128.4, 127.8, 127.4, 127.3, 126.4, 41.4.

HRMS (+ESI): Calculated: 238.1226 (C₁₆H₁₆NO). Observed: 238.1223.



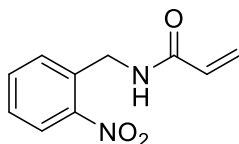
N-(2-chlorobenzyl)acrylamide (DKM 2-60)

Following **General Procedure A** starting from 2-chlorobenzylamine (406 mg, 2.9 mmol), product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 34% yield as a white solid (162 mg).

¹H NMR (400MHz, CDCl₃): δ 7.34-30 (m, 2H), 7.20-7.16 (m, 2H), 6.84 (s, 1H), 6.25 (dd, *J* = 2.0, 17.0 Hz, 1H), 6.16 (dd, *J* = 9.7, 17.0 Hz, 2H), 5.60 (dd, *J* = 2.0, 9.7 Hz, 1H), 4.52 (d, *J* = 6.1 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.9, 135.5, 133.5, 130.6, 129.8, 129.5, 128.8, 127.1, 126.8, 41.4.

HRMS (+ESI): Calculated: 196.0524 (C₁₀H₁₁ClNO). Observed: 196.0521



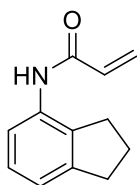
N-(2-nitrobenzyl)acrylamide (DKM 2-62)

Following **General Procedure A** starting from 2-nitrobenzylamine hydrochloride (406 mg, 2.9 mmol) with an extra equivalent of triethylamine, product was obtained after silica gel chromatography (50% ethyl acetate in hexanes) in 42% yield as a yellow solid (255 mg).

¹H NMR (400MHz, CDCl₃): δ 7.98 (dd, *J* = 1.1, 8.2 Hz, 1H), 7.58-7.52 (m, 2H), 7.41-7.37 (m, 1H), 7.03 (s, 1H), 6.22 (dd, *J* = 2.0, 17.0 Hz, 1H), 6.14 (dd, *J* = 9.7, 17.0 Hz, 1H), 5.59 (dd, *J* = 2.0, 9.7 Hz, 1H), 4.68 (d, *J* = 6.4 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 148.2, 134.1, 133.6, 131.9, 130.4, 128.7, 127.1, 125.1, 41.2.

HRMS (+ESI): Calculated: 207.0764 (C₁₀H₁₁N₂O₃). Observed: 207.0760.



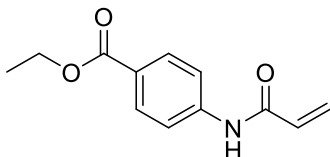
N-(2,3-dihydro-1H-inden-4-yl)acrylamide (DKM 2-84)

Following **General Procedure A** starting from 4-aminoindan (402 mg, 3.0 mmol), product was obtained after silica gel chromatography (30% ethyl acetate in hexanes) in 59% yield as a white solid (332 mg).

¹H NMR (400MHz, CDCl₃): δ 7.72 (d, *J* = 7.5 Hz, 1H), 7.54 (s, 1H), 7.10 (t, *J* = 7.7 Hz, 1H), 7.01 (d, *J* = 7.2 Hz, 1H), 6.40-6.26 (m, 2H), 5.69 (dd, *J* = 1.9, 9.7 Hz, 1H), 2.91 (t, *J* = 7.4 Hz, 2H), 2.78 (t, *J* = 7.4 Hz, 2H), 2.05 (quint, *J* = 7.4 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): 163.5, 145.3, 134.4, 133.6, 131.2, 127.5, 127.2, 12.0, 19.2, 33.2, 30.1, 24.8.

HRMS (+ESI): Calculated: 188.1070 (C₁₂H₁₄NO). Observed: 188.1069.



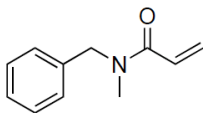
Ethyl 4-acrylamidobenzoate (DKM 2-85)

Following **General Procedure A** starting from benzocaine (486 mg, 2.9 mmol), product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 68% yield as a white solid (438 mg).

¹H NMR (400MHz, CDCl₃): δ 9.39 (s, 1H), 7.95 (d, *J* = 8.7 Hz, 2H), 7.74 (d, *J* = 8.7 Hz, 2H), 6.43-6.41 (m, 2H), 5.71 (dd, *J* = 4.7, 6.9 Hz, 2H), 4.31 (q, *J* = 7.1 Hz, 2H), 1.33 (s, *J* = 7.1 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 166.5, 164.6, 142.5, 131.0, 130.6, 128.4, 125.7, 119.4, 61.0, 14.2.

HRMS (-ESI): Calculated: 218.0823 (C₁₂H₁₂NO₃). Observed: 218.0822



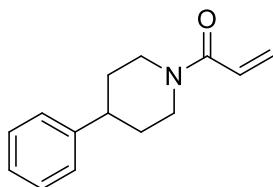
N-benzyl-N-methylacrylamide (DKM 2-95)

Following **General Procedure A** starting from *N*-methylbenzylamine (350 mg, 2.9 mmol), product was obtained after silica gel chromatography (20% ethyl acetate in hexanes) in 60% yield as a clear oil (304 mg).

¹H NMR (~48:52 rotamer ratio, asterisks denote minor peaks, 400MHz, CDCl₃): δ 7.34-7.23 (m, 4H), 7.16 (s, 1H), 7.14* (s, 1H), 6.61 (dd, *J* = 10.4, 16.8 Hz, 1H), 6.57* (dd, *J* = 10.4, 16.8 Hz, 1H), 6.38 (dd, *J* = 1.9, 16.8 Hz, 1H), 6.36* (dd, *J* = 1.9, 16.8 Hz, 1H), 5.71 (dd, *J* = 1.9, 10.4 Hz, 1H), 5.64* (dd, *J* = 1.9, 10.4 Hz), 4.63 (s, 2H), 4.56* (s, 2H), 2.98* (s, 3H), 2.96 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 167.0, 166.4, 137.1, 136.5, 128.8, 128.5, 128.2, 128.0, 17.62, 127.59, 127.3, 126.3, 53.3, 51.0, 34.8, 34.0.

HRMS (+ESI): Calculated: 176.1070 (C₁₁H₁₄NO). Observed: 176.1070.



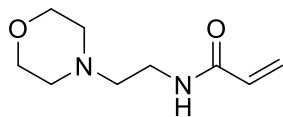
1-(4-phenylpiperidin-1-yl)prop-2-en-1-one (DKM 2-97)

Following **General Procedure A** starting from 4-phenylpiperidine (331 mg, 2.1 mmol), product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 86% yield as a yellow oil (379 mg).

¹H NMR (400MHz, CDCl₃): δ 7.32-7.28 (m, 2H), 7.22-7.17 (m, 3H), 6.62 (dd, *J* = 10.6, 16.8 Hz, 1H), 6.30 (dd, *J* = 1.9, 16.8 Hz, 1H), 5.68 (dd, *J* = 1.9, 10.6 Hz, 1H), 4.82 (d, *J* = 12.9 Hz, 1H), 4.11 (d, *J* = 13.2 Hz, 1H), 3.15 (t, *J* = 8.5 Hz, 1H), 2.78-2.67 (m, 2H), 1.90 (d, *J* = 12.9 Hz, 2H), 1.64 (quint, *J* = 12.3 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): 165.3, 145.0, 128.5, 127.8, 127.4, 126.6, 126.4, 46.4, 42.7, 33.9, 32.7.

HRMS (+ESI): Calculated: 216.1383 (C₁₄H₁₈NO). Observed: 216.1383.



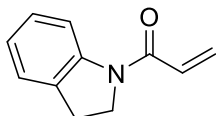
N-(2-morpholinoethyl)acrylamide (DKM 2-100)

Following **General Procedure A** starting from 2-morpholinoethylamine (580 mg, 3.0 mmol), product was obtained after silica gel chromatography (2% to 6% methanol in dichloromethane) in 33% yield as a white solid (184 mg).

¹H NMR (400MHz, CDCl₃): δ 6.39 (s, 1H), 6.21 (dd, *J* = 1.7, 17.0 Hz, 1H), 6.08 (dd, *J* = 10.1, 17.0 Hz, 1H), 5.56 (dd, *J* = 1.7, 10.1 Hz, 1H), 3.63 (t, *J* = 4.6 Hz, 4H), 3.36 (q, *J* = 6.2 Hz, 2H), 2.45 (t, *J* = 6.2 Hz, 2H), 2.40-2.38 (m, 4H).

¹³C NMR (100MHz, CDCl₃): δ 165.5, 130.9, 126.2, 66.9, 57.0, 53.3, 35.7.

HRMS (+ESI): Calculated: 185.1285 (C₉H₁₇N₂O₂). Observed: 185.1280.



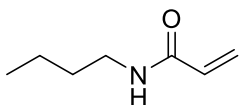
1-(indolin-1-yl)prop-2-en-1-one (DKM 2-101)

Following **General Procedure A** starting from indoline (580 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 20% ethyl acetate in hexanes) in 56% yield as a green solid (285 mg).

¹H NMR (400MHz, CDCl₃): δ 8.30 (d, *J* = 7.7 Hz, 1H), 7.22-7.17 (m, 2H), 7.03 (t, *J* = 7.9 Hz, 1H), 6.60-6.48 (m, 2H), 5.79 (dd, *J* = 2.6, 9.5 Hz, 1H), 4.15 (t, *J* = 8.5 Hz, 2H), 3.20 (t, *J* = 8.1, 2H).

¹³C NMR (100MHz, CDCl₃): δ 163.6, 142.6, 131.5, 129.0, 128.6, 127.2, 124.4, 123.8, 117.2, 47.8, 27.7.

HRMS (+ESI): Calculated: 174.0913 (C₁₁H₁₂NO). Observed: 174.0911.



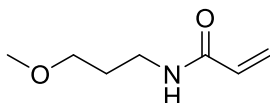
N-butylacrylamide (DKM 2-102)

Following **General Procedure A** starting from butylamine (223 mg, 3.0 mmol), product was obtained after silica gel chromatography (20% ethyl acetate in hexanes) in 61% yield as a clear oil (237 mg).

¹H NMR (400MHz, CDCl₃): δ 6.81 (s, 1H), 6.21-6.10 (m, 2H), 5.52 (dd, *J* = 3.6, 8.3 Hz, 1H), 3.26-3.21 (m, 2H), 1.48-1.41 (m, 2H), 1.33-1.23 (m, 2H), 0.84 (t, *J* = 7.3 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 166.0, 131.2, 125.6, 39.3, 31.5, 20.1, 13.7.

HRMS (+ESI): Calculated: 128.1070 (C₇H₁₄NO). Observed: 128.1068.



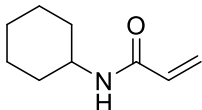
N-(3-methoxypropyl)acrylamide (DKM 2-103)

Following **General Procedure A** starting from 3-methoxypropylamine (274 mg, 3.1 mmol), product was obtained after silica gel chromatography (35% to 60% ethyl acetate in hexanes) in 54% yield as a clear oil (236 mg).

¹H NMR (400MHz, CDCl₃): δ 6.84 (s, 1H), 6.15 (dd, *J* = 2.0, 17.0 Hz, 1H), 6.07 (dd, *J* = 9.8, 17.0 Hz, 1H), 5.51 (dd, *J* = 2.0, 9.8 Hz, 1H), 3.39 (t, *J* = 5.9 Hz, 2H), 3.33 (q, *J* = 6.3 Hz, 2H), 3.25 (s, 3H), 1.72 (quint, *J* = 6.3 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 131.2, 125.7, 71.3, 58.7, 37.7, 29.0.

HRMS (+ESI): Calculated: 144.1019 (C₇H₁₄NO₂). Observed: 144.1017.



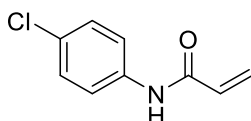
N-cyclohexylacrylamide (DKM 2-106)

Following **General Procedure A** starting from cyclohexylamine (292 mg, 2.9 mmol), product was obtained after silica gel chromatography (20% to 30% ethyl acetate in hexanes) in 86% yield as a white solid (313 mg).

¹H NMR (400MHz, (CDCl₃): δ 6.55 (d, *J* = 6.7 Hz, 1H), 6.21-6.09 (m, 2H), 5.51 (dd, *J* = 2.5, 9.1 Hz, 1H), 3.79-3.70 (m, 1H), 1.86-1.82 (m, 2H), 1.67-1.63 (m, 2H), 1.56-1.52 (m, 1H), 1.28-1.21 (m, 2H), 1.16-1.05 (m, 3H).

¹³C NMR (100MHz, CDCl₃): δ 164.8, 131.5, 125.7, 48.3, 32.9, 25.5, 24.9.

HRMS (+ESI): Calculated: 154.1226 (C₉H₁₆NO). Observed: 154.1224.



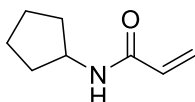
N-(4-chlorophenyl)acrylamide (DKM 2-107)

Following **General Procedure A** starting from 4-chloroaniline (386 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 40% ethyl acetate in hexanes) followed by recrystallization from toluene in 31% yield as a white solid (168 mg).

¹H NMR (400MHz, (CD₃)₂CO): δ 9.47 (s, 1H), 7.77-7.74 (m, 2H), 7.35-7.31 (m, 2H), 6.43 (dd, *J* = 9.6, 16.9 Hz, 1H), 6.35 (dd, *J* = 2.5, 16.9 Hz, 1H), 5.73 (dd, *J* = 2.5, 9.6 Hz, 1H).

¹³C NMR (100MHz, (CD₃)₂CO): δ 164.1, 139.0, 132.5, 129.5, 128., 127.5, 121.7.

HRMS (-ESI): Calculated: 180.0222 (C₉H₇NOCl). Observed: 180.0221.



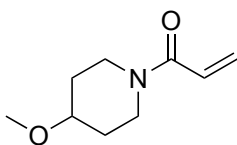
N-cyclopentylacrylamide (DKM 2-108)

Following **General Procedure A** starting from cyclopentylamine (257 mg, 3.0 mmol), product was obtained after silica gel chromatography (20% to 30% ethyl acetate in hexanes) in 55% yield as a colorless oil (229 mg).

¹H NMR (400MHz, (CDCl₃): δ 6.70 (s, 1H), 6.21-6.10 (m, 2H), 5.51 (dd, *J* = 3.5, 8.5 Hz, 1H), 5.53-5.50 (sex, *J* = 7.1 Hz, 1H), 1.94-1.86 (m, 2H), 1.65-1.46 (m, 4H), 1.41-1.32 (m, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.4, 131.3, 125.7, 51.1, 32.9, 23.8.

HRMS (+ESI): Calculated: 140.1070 (C₈H₁₄NO). Observed: 140.1067.



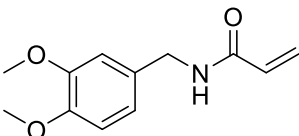
1-(4-methoxypiperidin-1-yl)prop-2-en-1-one (DKM 2-109)

Following **General Procedure A** starting from 4-methoxypiperidine (461 mg, 3.0 mmol), product was obtained after silica gel chromatography (40% to 60% ethyl acetate in hexanes) in 75% yield as a pale yellow oil (386 mg).

¹H NMR (400MHz, CDCl₃): δ 6.45 (dd, *J* = 10.6, 16.8 Hz, 1H), 6.09 (dd, *J* = 2.0, 16.8 Hz, 1H), 5.51 (dd, *J* = 2.0, 10.6 Hz, 1H), 3.80-3.74 (m, 1H), 3.65-3.58 (m, 1H), 3.33-3.17 (m, 6H), 1.74-1.67 (m, 2H), 1.47-1.39 (m, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.1, 127.6, 127.2, 75.0, 55.5, 42.7, 38.9, 31.1, 29.9.

HRMS (+ESI): Calculated: 170.1176 (C₉H₁₆NO₂). Observed: 170.1176.



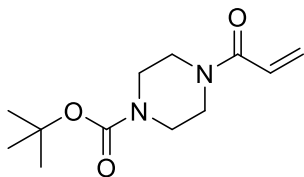
N-(3,4-dimethoxybenzyl)acrylamide (DKM 2-110)

Following **General Procedure A** starting from 3,4-dimethoxybenzylamine (497 mg, 3.0 mmol), product was obtained after silica gel chromatography (30% to 40% ethyl acetate in hexanes) in 65% yield as a white solid (425 mg).

¹H NMR (400MHz, CDCl₃): δ 7.07 (s, 1H), 6.70-6.64 (m, 3H), 6.18-6.08 (m, 2H), 5.50 (dd, *J* = 3.1, 8.8 Hz, 1H), 4.26 (d, *J* = 5.8 Hz, 2H), 3.70 (d, *J* = 7.8 Hz, 6H).

¹³C NMR (400MHz, CDCl₃): δ 165.5, 148.7, 148.0, 130.73, 130.67, 126.2, 119.9, 110.98, 110.96, 55.64, 55.55, 43.12.

HRMS (+ESI): Calculated: 222.1125 (C₁₂H₁₆NO₃). Observed: 222.1121.



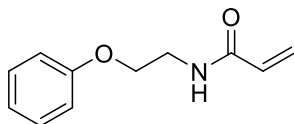
tert-butyl 4-acryloylpiperazine-1-carboxylate (DKM 2-111)

Following **General Procedure A** starting from 1-boc-piperazine (552 mg, 3.0 mmol), product was obtained after silica gel chromatography (50% to 70% ethyl acetate in hexanes) in 75% yield as a pale yellow oil (534 mg).

¹H NMR (400MHz, CDCl₃): δ 6.48 (dd, *J* = 10.5, 16.8 Hz, 1H), 6.20 (dd, *J* = 1.8, 16.8 Hz, 1H), 5.60 (dd, *J* = 1.8, 10.5 Hz, 1H), 3.55 (s, 2H), 3.44 (s, 2H), 3.36-3.34 (m, 4H), 1.37 (s, 9H).

^{13}C NMR (100MHz, CDCl_3): δ 165.4, 154.4, 128.2, 127.2, 80.2, 45.5, 41.7, 28.3.

HRMS (+ESI): Calculated: 241.1547 ($\text{C}_{12}\text{H}_{21}\text{N}_2\text{O}_3$). Observed: 241.1543.



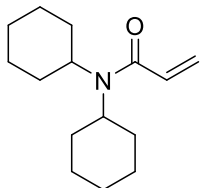
N-(2-phenoxyethyl)acrylamide (DKM 2-113)

Following **General Procedure A** starting from 2-phenoxyethylamine (279 mg, 2.0 mmol), product was obtained after silica gel chromatography (30% to 70% ethyl acetate in hexanes) in 61% yield as a white solid (239 mg).

^1H NMR (400MHz, CDCl_3): δ 7.31-7.25 (m, 2H), 6.98-6.94 (m, 1H), 6.90-6.87 (m, 2H), 6.58 (s, 1H), 6.31 (dd, J = 1.6, 17.0 Hz, 1H), 6.17 (dd, J = 10.2, 17.0 Hz, 1H), 5.64 (dd, J = 1.6, 10.2 Hz, 1H), 4.05 (t, J = 5.2 Hz, 2H), 3.73 (q, J = 5.4 Hz, 2H).

^{13}C NMR (100MHz, CDCl_3): δ 165.9, 158.4, 130.7, 129.6, 126.7, 121.2, 114.4, 66.5, 39.1.

HRMS (+ESI): Calculated: 192.1019 ($\text{C}_{11}\text{H}_{14}\text{NO}_2$). Observed: 192.1016.



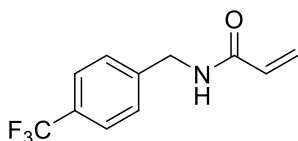
N,N-dicyclohexylacrylamide (DKM 2-114)

Following **General Procedure A** starting from dicyclohexylamine (537 mg, 3.0 mmol), product was obtained after silica gel chromatography (20% to 40% ethyl acetate in hexanes) in 55% yield as a white solid (382 mg).

^1H NMR (400MHz, CDCl_3): δ 6.49 (dd, J = 10.6, 16.8 Hz, 1H), 6.11 (dd, J = 1.9, 16.8 Hz, 1H), 5.49 (dd, J = 2.0, 10.6 Hz, 1H), 3.45 (s, 1H), 3.22 (s, 1H), 2.22 (s, 2H), 1.74-1.49 (m, 12H), 1.22-1.07 (m, 6H).

^{13}C NMR (100MHz, CDCl_3): δ 166.2, 130.9, 125.5, 57.5, 55.6, 31.6, 30.1, 26.4, 26.0, 25.3.

HRMS (+ESI): Calculated: 236.2009 ($\text{C}_{15}\text{H}_{26}\text{NO}$). Observed: 236.2004.



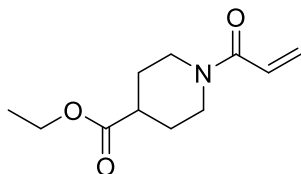
N-(4-(trifluoromethyl)benzyl)acrylamide (DKM 2-116)

Following **General Procedure A** starting from 4-(trifluoromethyl)benzylamine (516 mg, 2.9 mmol), product was obtained after silica gel chromatography (20% to 30% ethyl acetate in hexanes) in 24% yield as a white solid (165 mg).

¹H NMR (600MHz, CDCl₃): δ 7.53 (d, *J* = 8.0 Hz, 2H), 7.35 (d, *J* = 8.0 Hz, 2H), 6.58 (s, 1H), 6.28 (dd, *J* = 1.5, 17.0 Hz, 1H), 6.14 (dd, *J* = 10.1, 17.0 Hz, 1H), 5.64 (dd, *J* = 1.5, 10.1 Hz, 1H), 4.50 (d, *J* = 6.0 Hz, 2H).

¹³C NMR (150MHz, CDCl₃): δ 165.9, 142.3, 130.5, 130.0, 129.7, 128.0, 127.3, 125.73, 125.69, 125.62, 43.1.

HRMS (-ESI): Calculated: 228.0642 (C₁₁H₉NOF₃). Observed: 228.0641.



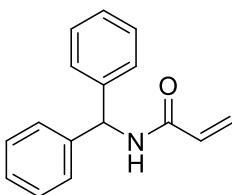
Ethyl 1-acryloylpiperidine-4-carboxylate (DKM 2-120)

Following **General Procedure A** starting from ethyl isonipecotate (459 mg, 2.9 mmol), product was obtained after silica gel chromatography (20% to 45% ethyl acetate in hexanes) in 71% yield as a pale yellow liquid (440 mg).

¹H NMR (400MHz, CDCl₃): δ 6.40 (dd, *J* = 10.6, 16.8 Hz, 1H), 6.04 (dd, *J* = 2.0, 16.8 Hz, 1H), 5.47 (dd, *J* = 2.0, 10.6 Hz, 1H), 4.23 (d, *J* = 13.2 Hz, 1H), 3.93 (q, *J* = 7.1 Hz, 2H), 3.76 (d, *J* = 14.0 Hz, 1H), 2.99 (t, *J* = 11.8 Hz, 1H), 2.70 (t, *J* = 11.5 Hz, 1H), 2.37 (tt, *J* = 4.1, 10.7 Hz, 1H), 1.77-1.73 (m, 2H), 1.51-1.42 (m, 2H), 1.05 (t, *J* = 7.1 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 173.7, 165.0, 127.5, 127.2, 60., 44.7, 41.0, 40.5, 28.2, 27.4, 13.8.

HRMS (+ESI): Calculated: 212.1281 (C₁₁H₁₈NO₃). Observed: 212.1276.



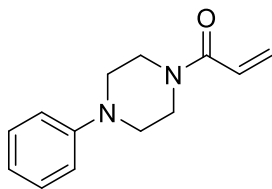
N-benzhydrylacrylamide (DKM 3-4)

Following **General Procedure A** starting from benzhydrylamine (459 mg, 3.0 mmol), product was obtained after silica gel chromatography (0% to 20% ethyl acetate in hexanes) and recrystallization from toluene in 15% yield as a white solid (110 mg).

¹H NMR (400MHz, (CD₃)₂CO): δ 7.35-7.23 (m, 10H), 6.45 (dd, *J* = 10.2, 17.0 Hz, 1H), 6.36-6.34 (m, 1H), 6.25 (dd, *J* = 2.2, 17.0 Hz, 1H), 5.61 (dd, *J* = 2.2, 10.2 Hz, 1H).

¹³C NMR (100MHz, (CD₃)₂CO): δ 164.84, 164.76, 143.51, 143.48, 132.51, 132.47, 129.4, 128.5, 1280, 126.3, 57.5, 57.4.

HRMS (+ESI): Calculated: 238.1226 (C₁₆H₁₆NO). Observed: 238.1222.



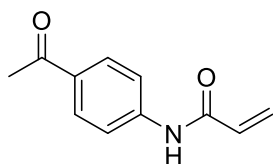
1-(4-phenylpiperazin-1-yl)prop-2-en-1-one (DKM 3-5)

Following **General Procedure A** starting from 1-phenylpiperazine (479 mg, 3.0 mmol), product was obtained after silica gel chromatography (30% to 70% ethyl acetate in hexanes) in 87% yield as a yellow oil (555 mg).

¹H NMR (400MHz, CDCl₃): 7.30-7.25 (m, 2H), 6.92-6.87 (m, 3H), 6.60 (dd, *J* = 10.5, 16.8 Hz, 1H), 6.33 (dd, *J* = 2.0, 16.8 Hz, 1H), 5.72 (dd, *J* = 2.0, 10.5 Hz, 1H), 3.81 (s, 2H), 3.66 (s, 2H), 3.14 (t, *J* = 5.2 Hz, 4H).

¹³C NMR (100MHz, CDCl₃): δ 165.0, 150.6, 18.9, 127.8, 127.1, 120.2, 116.3, 49.4, 48.9, 45.3, 41.5.

HRMS (+ESI): Calculated: 217.1335 (C₁₃H₁₇N₂O). Observed: 217.1332.



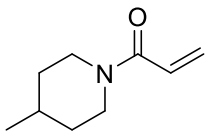
N-(4-acetylphenyl)acrylamide (DKM 3-7)

Following **General Procedure A** starting from 4-aminoacetophenone (398 mg, 2.9 mmol), product was obtained after silica gel chromatography (20% to 50% ethyl acetate in hexanes) in 45% yield as a white solid (253 mg).

¹H NMR (400MHz, CDCl₃): δ 8.40 (s, 1H), 7.92 (d, *J* = 8.7 Hz, 2H), 7.73 (d, *J* = 8.7 Hz, 2H), 6.46 (dd, *J* = 1.3, 16.9 Hz, 1H), 6.34 (dd, *J* = 10.1, 16.9 Hz, 1H), 5.79 (dd, *J* = 1.3, 10.1 Hz, 1H), 2.57 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 197.5, 164.1, 142.5, 133.0, 130.9, 129.9, 128.9, 119.4, 26.6.

HRMS (+ESI): Calculated: 190.0863 (C₁₁H₁₂NO₂). Observed: 190.0858.



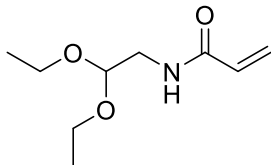
1-(4-methylpiperidin-1-yl)prop-2-en-1-one (DKM 3-8)

Following **General Procedure A** starting from 4-methylpiperidine (295 mg, 3.0 mmol), product was obtained after silica gel chromatography (10% to 30% ethyl acetate in hexanes) in 84% yield as a yellow oil (385 mg).

$^1\text{H NMR}$ (400MHz, CDCl_3): δ 6.51 (dd, $J = 10.6, 16.5$ Hz, 1H), 6.16 (dd, $J = 2.0, 16.5$ Hz, 1H), 5.57 (dd, $J = 2.0, 10.6$ Hz, 1H), 4.53 (d, $J = 13.1$ Hz, 1H), 3.88 (d, $J = 13.3$ Hz, 1H), 2.99-2.92 (m, 1H), 2.55 (td, $J = 2.1, 12.8$ Hz, 1H), 1.62 (d, $J = 13.1$ Hz, 2H), 1.57-1.49 (m, 1H), 1.10-0.98 (m, 2H), 0.87 (d, $J = 6.5$ Hz, 3H).

$^{13}\text{C NMR}$ (100MHz, CDCl_3): δ 165.2, 128.0, 127.0, 46.2, 42.4, 34.7, 33.7, 31.1, 21.7.

HRMS (+ESI): Calculated: 154.1226 ($\text{C}_9\text{H}_{16}\text{NO}$). Observed: 154.1224.



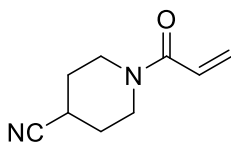
N-(2,2-diethoxyethyl)acrylamide (DKM 3-9)

Following **General Procedure A** starting from aminoacetaldehyde diethyl acetal (402 mg, 3.0 mmol), product was obtained after silica gel chromatography (10% to 40% ethyl acetate in hexanes) in 75% yield as a clear oil (313 mg).

$^1\text{H NMR}$ (400MHz, CDCl_3): 6.25-6.19 (m, 2H), 6.09 (dd, $J = 10.1, 17.0$ Hz, 1H), 5.56 (dd, $J = 1.7, 10.1$ Hz, 1H), 4.48 (t, $J = 5.3$ Hz, 1H), 3.64 (dq, $J = 7.1, 9.4$ Hz, 2H), 3.47 (dq, $J = 7.1, 9.4$ Hz, 2H), 3.38 (t, $J = 5.6$ Hz, 2H), 1.13 (t, $J = 7.1$ Hz, 6H).

$^{13}\text{C NMR}$ (100MHz, CDCl_3): δ 165.7, 130.6, 126.4, 100.6, 62.8, 42.0, 15.2.

HRMS (+ESI): Calculated: 188.1281 ($\text{C}_9\text{H}_{18}\text{NO}_3$). Observed: 188.1278.



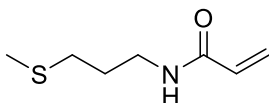
1-acryloylpiperidine-4-carbonitrile (DKM 3-11)

Following **General Procedure A** starting from piperidine-4-carbonitrile (329 mg, 3.0 mmol), product was obtained after silica gel chromatography (30% to 70% ethyl acetate in hexanes) in 48% yield as a colorless oil (234 mg).

¹H NMR (400MHz, CDCl₃): 6.49 (dd, *J* = 10.6, 16.8 Hz, 1H), 6.19 (d, *J* = 1.9, 16.8 Hz, 1H), 5.64 (dd, *J* = 1.9, 10.6 Hz, 1H), 3.77-3.46 (m, 4H), 2.88-2.82 (sept, *J* = 3.9 Hz, 1H), 1.90-1.73 (m, 4H).

¹³C NMR (100MHz, CDCl₃): δ 165.4, 128.3, 127.3, 120.8, 43.8, 39.9, 29.1, 28.1, 26.3.

HRMS (+ESI): Calculated: 165.1022 (C₉H₁₃N₂O). Observed: 165.1020.



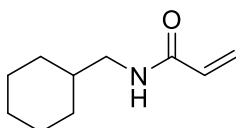
N-(3-(methylthio)propyl)acrylamide (DKM 3-12)

Following **General Procedure A** starting from 3-(methylthio)propylamine (313 mg, 3.0 mmol), product was obtained after silica gel chromatography (20% to 60% ethyl acetate in hexanes) in 69% yield as a colorless oil (328 mg).

¹H NMR (400MHz, CDCl₃): δ 6.79 (s, 1H), 6.19 (dd, *J* = 2.2, 17.0 Hz, 1H), 6.11 (dd, *J* = 9.6, 17.0 Hz, 1H), 5.55 (dd, *J* = 2.2, 9.6 Hz, 1H), 3.35 (q, *J* = 6.5 Hz, 2H), 2.47 (t, *J* = 7.2 Hz, 2H), 2.02 (s, 3H), 1.78 (quint, *J* = 7.0 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.9, 131.0, 126.1, 38.6, 31.6, 28.6, 15.4.

HRMS (+ESI): Calculated: 160.0791 (C₇H₁₄NOS). Observed: 160.0788.



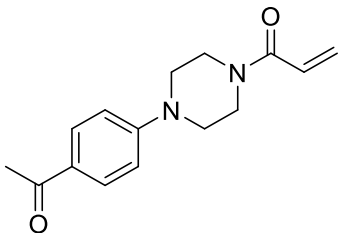
N-(cyclohexylmethyl)acrylamide (DKM 3-13)

Following **General Procedure A** starting from cyclohexanemethylamine (331 mg, 2.9 mmol), product was obtained after silica gel chromatography (10% to 50% ethyl acetate in hexanes) in 67% yield as a pale yellow solid (330 mg).

¹H NMR (400MHz, CDCl₃): 6.51 (s, 1H), 6.22 (dd, *J* = 2.5, 17.0 Hz, 1H), 6.15 (dd, *J* = 9.3, 17.0 Hz, 1H), 5.55 (dd, *J* = 2.5, 9.3 Hz, 1H), 3.11 (t, *J* = 6.5 Hz, 2H), 1.70-1.58 (m, 5H), 1.51-1.40 (m, 1H), 1.22-1.04 (m, 3H), 0.93-0.83 (m, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.9, 131.2, 125.9, 45.9, 38.0, 30.9, 26.4, 25.8.

HRMS (+ESI): Calculated: 168.1383 (C₁₀H₁₈NO). Observed: 168.1380.



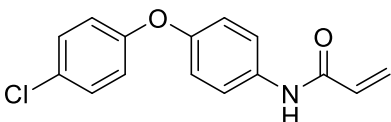
1-(4-(4-acetylphenyl)piperazin-1-yl)prop-2-en-1-one (DKM 3-29)

Following **General Procedure A** starting from 4'-piperazinoacetophenone (607 mg, 3.0 mmol), product was obtained after silica gel chromatography (50% to 85% ethyl acetate in hexanes) in 65% yield as a yellow solid (496 mg).

¹H NMR (400MHz, CDCl₃): δ 7.79 (d, *J* = 9.0 Hz, 2H), 6.78 (d, *J* = 9.0 Hz, 2H), 6.54 (dd, *J* = 10.5, 16.8 Hz, 1H), 6.25 (dd, *J* = 1.9, 16.8 Hz, 1H), 5.66 (dd, *J* = 1.9, 10.5 Hz, 1H), 3.75 (s, 2H), 3.66 (s, 2H), 3.31-3.29 (m, 4H), 2.42 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 196.3, 165.2, 153.4, 130.2, 128.3, 127.9, 127.0, 113.5, 47.3, 47.0, 45.0, 41.2, 26.0.

HRMS (+ESI): Calculated: 259.1441(C₁₅H₁₉N₂O₂). Observed: 259.1436.



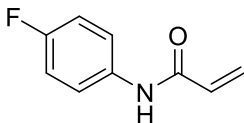
N-(4-(4-chlorophenoxy)phenyl)acrylamide (DKM 3-30)

Following **General Procedure A** starting from 4-(4-chlorophenoxy)aniline (440 mg, 2.0 mmol), product was obtained after silica gel chromatography (10% to 30% ethyl acetate in hexanes) in 33% yield as a white solid (180 mg).

¹H NMR (400MHz, CDCl₃): δ 8.00 (s, 1H), 7.56 (d, *J* = 8.9 Hz, 2H), 7.29-7.25 (m, 2H), 6.96-6.88 (m, 4H), 6.43 (dd, *J* = 1.4, 16.9 Hz, 1H), 6.30 (dd, *J* = 10.1, 16.9 Hz, 1H), 5.75 (dd, *J* = 1.4, 10.1 Hz, 1H).

¹³C NMR (100MHz, CDCl₃): δ 163.9, 156.2, 153.4, 133.7, 131.2, 129.8, 128.2, 128.0, 122.1, 119.8, 119.7.

HRMS (+ESI): Calculated: 272.0484 (C₁₅H₁₁NO₂Cl). Observed: 272.0479.



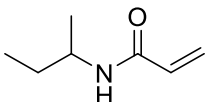
N-(4-fluorophenyl)acrylamide (DKM 3-31)

Following **General Procedure A** starting from 4-fluoroaniline (239 mg, 2.2 mmol), product was obtained after silica gel chromatography (20% to 30% ethyl acetate in hexanes) in 16% yield as a white solid (56 mg).

¹H NMR (600MHz, MeOD): δ 7.64-7.60 (m, 2H), 7.07-7.03 (m, 2H), 6.41 (dd, *J* = 9.8, 17.0 Hz, 1H), 6.35 (dd, *J* = 2.1, 17.0 Hz, 1H), 5.76 (dd, *J* = 2.1, 9.8 Hz, 1H).

¹³C NMR (150MHz, MeOD): δ 166.0, 161.56, 160.0, 135.93, 135.91, 132.3, 127.8, 123.2, 123.1, 116.4, 116.2.

HRMS (-ESI): Calculated: 164.0517 (C₉H₇NOC). Observed: 164.0517.



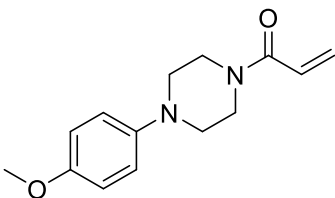
N-(sec-butyl)acrylamide (DKM 3-32)

Following **General Procedure A** starting from sec-butylamine (222 mg, 3.0 mmol), product was obtained after silica gel chromatography (10% to 40% ethyl acetate in hexanes) in 74% yield as a yellow oil (287 mg).

¹H NMR (400MHz, CDCl₃): δ 6.56 (d, *J* = 5.6 Hz, 1H), 6.17 (s, 1H), 6.16 (d, *J* = 3.5 Hz, 1H), 5.51 (dd, *J* = 4.3, 7.6 Hz, 1H), 3.93-3.83 (m, 1H), 1.47-1.36 (m, 2H), 1.06 (d, *J* = 6.6 Hz, 3H), 0.82 (t, *J* = 7.5 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.2, 131.4, 125.6, 46.6, 29.5, 20.2, 10.4.

HRMS (+ESI): Calculated: 128.1070 (C₇H₁₄NO). Observed: 128.1069.



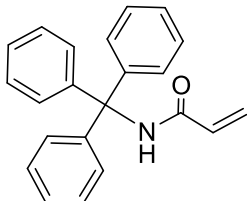
1-(4-(4-methoxyphenyl)piperazin-1-yl)prop-2-en-1-one (DKM 3-36)

Following **General Procedure A** starting from 1-(4-methoxyphenyl)piperazine (388 mg, 2.0 mmol), product was obtained after silica gel chromatography (20% to 80% ethyl acetate in hexanes) in 29% yield as a white solid (143 mg).

¹H NMR (400MHz, CDCl₃): δ 6.87-6.79 (m, 4H), 6.57 (dd, *J* = 10.5, 16.8 Hz, 1H), 6.28 (dd, *J* = 1.9, 16.8 Hz, 1H), 5.68 (dd, *J* = 1.9, 10.5 Hz, 1H), 3.79 (s, 2H), 3.72 (s, 3H), 3.66 (s, 2H), 3.01 (t, *J* = 5.1 Hz, 4H).

¹³C NMR (100MHz, CDCl₃): δ 165.2, 154.3, 145.1, 128.0, 127.3, 118.8, 114.4, 55.4, 51.3, 50.7, 45.8, 41.9.

HRMS (+ESI): Calculated: 247.1441 (C₁₄H₁₉N₂O₂). Observed: 247.1443.



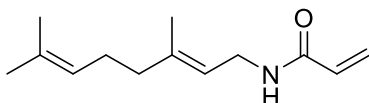
N-tritylacrylamide (DKM 3-41)

Following **General Procedure A** starting from triphenylmethylamine (386 mg, 1.5 mmol), product was obtained after silica gel chromatography (5% to 30% ethyl acetate in hexanes) in 74% yield as a white solid (346 mg).

¹H NMR (400MHz, CDCl₃): δ 7.38-7.27 (m, 15H), 6.83 (s, 1H), 6.28-6.26 (m, 2H), 5.66 (dd, *J* = 3.9, 7.2 Hz, 1H).

¹³C NMR (100MHz, CDCl₃): δ 164.6, 144.6, 131.5, 128.8, 128.1, 127.2, 127.1, 70.7.

HRMS (+ESI): Calculated: 314.1539 (C₂₂H₂₀NO). Observed: 314.1542.



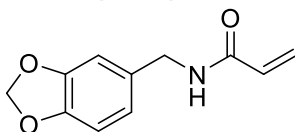
(E)-N-(3,7-dimethylocta-2,6-dien-1-yl)acrylamide (DKM 3-42)

Following **General Procedure A** starting from geranylamine (462 mg, 3.0 mmol), product was obtained after silica gel chromatography (10% to 40% ethyl acetate in hexanes) in 23% yield as a colorless oil (141 mg).

¹H NMR (400MHz, CDCl₃): δ 6.25 (dd, *J* = 1.5, 17.0 Hz, 1H), 6.09 (dd, *J* = 10.2, 17.0 Hz, 1H), 5.83 (s, 1H), 5.59 (dd, *J* = 1.5, 10.2 Hz), 5.22-5.18 (m, 1H), 5.07-5.03 (m, 1H), 3.90 (t, *J* = 6.2 Hz, 2H), 2.09-2.03 (m, 2H), 2.00-1.97 (m, 2H), 1.65 (s, 6H), 1.57 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.5, 140.2, 131.8, 131.0, 126.2, 123.9, 119.7, 39.6, 37.6, 26.5, 25.8, 17.8, 16.4.

HRMS (+ESI): Calculated: 208.1696 (C₁₃H₂₂NO). Observed: 208.1697.



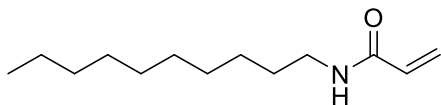
N-(benzo[d][1,3]dioxol-5-ylmethyl)acrylamide (DKM 3-43)

Following **General Procedure A** starting from piperonylamine (312 mg, 2.1 mmol), product was obtained after silica gel chromatography (20% to 50% ethyl acetate in hexanes) in 74% yield as a white solid (315 mg).

¹H NMR (400MHz, CDCl₃): δ 6.78 (s, 1H), 6.71 (s, 1H), 6.68 (s, 2H), 6.22 (dd, *J* = 1.9, 17.0 Hz, 1H), 6.13 (dd, *J* = 9.9, 17.0 Hz, 1H), 5.87 (s, 2H), 5.58 (dd, *J* = 1.9, 9.9 Hz, 1H), 4.30 (d, *J* = 5.8 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 165.7, 147.8, 146.9, 132.0, 130.8, 126.6, 121.1, 108.4, 108.2, 101.0, 43.4.

HRMS (+ESI): Calculated: 206.0812 (C₁₁H₁₂NO₃). Observed: 206.0808.



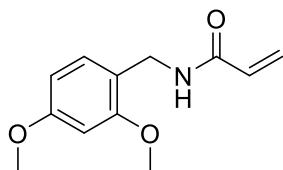
N-decylacrylamide (TRH 1-12)

Following **General Procedure A** starting from decylamine (479 mg, 3.0 mmol), product was obtained after silica gel chromatography (20% to 40% ethyl acetate in hexanes) in 26% yield as a white solid (163 mg).

¹H NMR (400MHz, CDCl₃): δ 6.54 (s, 1H), 6.21 (dd, *J* = 2.0, 16.9 Hz, 1H) 6.13 (dd, *J* = 9.7, 16.9 Hz, 1H), 5.55 (dd, *J* = 2.0, 9.7 Hz, 1H), 3.25 (q, *J* = 6.7 Hz, 2H), 1.50-1.45 (m, 2H), 1.29-1.20 (m, 14H), 0.83 (t, *J* = 6.7 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 131.2, 125.9, 71.9, 39.7, 31.9, 29.6, 29.6, 29.38, 29.35, 27.0, 22.7, 14.1.

HRMS (+ESI): Calculated: 212.2009 (C₁₃H₂₆NO). Observed: 212.2009.



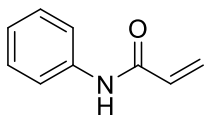
N-(2,4-dimethoxybenzyl)acrylamide (TRH 1-13)

Following **General Procedure A** starting from 2,4-dimethoxybenzylamine (514 mg, 3.0 mmol), product was obtained after silica gel chromatography (20% to 60% ethyl acetate in hexanes) in 11% yield as a white solid (73 mg).

¹H NMR (400MHz, CDCl₃): δ 7.17 (d, *J* = 8.1 Hz, 1H), 6.43-6.39 (m, 2H), 6.26-6.22 (m, 2H), 6.07 (dd, *J* = 10.7, 17.0 Hz, 1H), 5.57 (dd, *J* = 1.4, 10.7 Hz, 1H), 4.41 (d, *J* = 5.8 Hz, 2H), 3.79 (s, 3H), 3.77 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.2, 160.6, 158.6, 131.1, 130.7, 126.2, 118.7, 104.0, 98.6, 55.5, 55.4, 39.0.

HRMS (+ESI): Calculated: 222.1125 (C₁₂H₁₆NO₃). Observed: 222.1124.



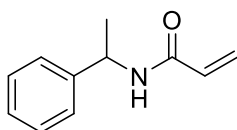
N-Phenylacrylamide (TRH 1-19)

Following **General Procedure A** starting from aniline (277 mg, 3.0 mmol), product was obtained after recrystallization from a 1:20 ethyl acetate:hexanes mixture in 46% yield as a white solid (200 mg).

¹H NMR (400MHz, CDCl₃): δ 8.59 (s, 1H), 7.63 (d, *J* = 7.9 Hz, 2H), 7.30 (t, *J* = 7.9 Hz, 2H), 7.11 (t, *J* = 7.4 Hz, 1H), 6.44-6.33 (m, 2H), 5.70 (dd, *J* = 2.8, 8.9 Hz, 1H).

¹³C NMR (100MHz, CDCl₃): δ 164.3, 138.0, 131.4, 129.0, 127.7, 124.6, 120.5.

HRMS (+ESI): Calculated: 148.0757 (C₉H₁₀NO). Observed: 148.0754.



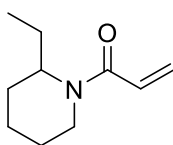
N-(1-phenylethyl)acrylamide (TRH 1-20)

Following **General Procedure A** starting from 1-phenylethan-1-amine (387 mg, 3.0 mmol), product was obtained after silica gel chromatography (5% to 20% ethyl acetate in hexanes) in 46% yield as a white solid (315 mg).

¹H NMR (400MHz, CDCl₃): δ 7.61 (d, *J* = 7.8 Hz, 1H) 7.37-7.24 (m, 5H), 6.33-6.24 (m, 2H), 5.57 (dd, *J* = 4.8, 7.9 Hz, 1H), 5.20 (quint, *J* = 7.2 Hz, 1H), 1.49 (d, *J* = 7.0 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.0, 143.4, 131.1, 128.4, 126.9, 126.0, 126.0, 48.7, 21.8.

HRMS (+ESI): Calculated: 176.1070 (C₁₁H₁₄NO). Observed: 176.1067.



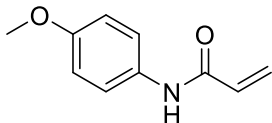
1-(2-ethylpiperidin-1-yl)prop-2-en-1-one (TRH 1-27)

Following **General Procedure A** starting from 2-ethylpiperidine (238 mg, 2.0 mmol), product was obtained after silica gel chromatography (5% to 30% ethyl acetate in hexanes) in 72% yield as a white solid (253 mg).

¹H NMR (400MHz, CDCl₃): δ 6.41 (dd, *J* = 10.6, 16.7 Hz, 1H), 6.03 (d, *J* = 16.4 Hz, 1H), 5.43 (dd, *J* = 2.0, 10.6 Hz, 1H), 4.54-4.34 (m, 1H), 3.77-3.58 (m, 1H), 2.93-2.42 (m, 1H), 1.61-1.06 (m, 8H), 0.66 (t, *J* = 7.5 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.9, 130.0, 129.1, 128.4, 126.6, 54.4, 49.6, 41.1, 36.5, 28.8, 27.5, 26.2, 25.2, 23.0, 22.1, 18.8, 10.4.

HRMS (+ESI): Calculated: 168.1383 (C₁₀H₁₈NO). Observed: 168.1380.



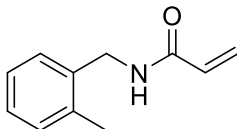
N-(4-methoxyphenyl)acrylamide (TRH 1-32)

Following **General Procedure A** starting from p-anisidine (258 mg, 2.0 mmol), product was obtained after silica gel chromatography (10% to 50% ethyl acetate in hexanes) in 58% yield as a white solid (216 mg).

¹H NMR (400MHz, CDCl₃): δ 8.94 (s, 1H), 7.48 (d, *J* = 9.1 Hz, 2H), 6.78 (d, *J* = 9.1 Hz, 2H), 6.34 (d, *J* = 5.6 Hz, 2H), 5.61 (t, *J* = 5.9 Hz, 1H), 3.73 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 164.3, 156.4, 131.4, 131.1, 127., 122.3, 114.0, 55.4.

HRMS (+ESI): Calculated: 178.0863 (C₁₀H₁₂O₂N). Observed: 178.0859.



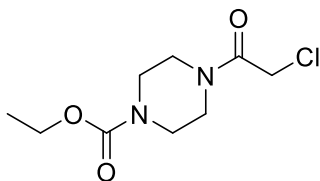
N-(2-methylbenzyl)acrylamide (TRH 1-54)

Following **General Procedure A** starting from 2-methylbenzylamine (240 mg, 2.0 mmol), product was obtained after silica gel chromatography (30% to 40% ethyl acetate in hexanes) in 73% yield as a white solid (257 mg).

¹H NMR (400MHz, CDCl₃): δ 7.26-7.12 (m, 4H), 6.66 (s, 1H), 6.24-6.12 (m, 2H), 5.57 (dd, *J* = 9.5, 2.2 Hz, 1H), 4.39 (d, *J* = 5.4 Hz, 2H), 2.27 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.6, 136.3, 135.7, 130.7, 130.4, 128.4, 127.6, 126.4, 126.1, 41.6, 19.0.

HRMS (+ESI): Calculated: 176.1070 (C₁₁H₁₄NO). Observed: 176.1067.



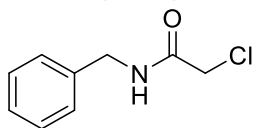
Ethyl 4-(2-chloroacetyl)piperazine-1-carboxylate (DKM 2-52)

Following **General Procedure B** starting from ethyl 1-piperazinecarboxylate (477 mg, 3.0 mmol) product was obtained after silica gel chromatography (0% to 80% ethyl acetate in hexanes) in 80% yield as a pale yellow oil (569 mg).

¹H NMR (400MHz, CDCl₃): δ 4.04-3.99 (m, 4H), 3.48-3.34 (m, 8H), 1.14 (t, *J* = 7.1 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.1, 155.0, 61.5, 45.8, 43.3, 43.0, 41.7, 40.7, 14.4.

HRMS (+ESI): Calculated: 235.0844 (C₉H₁₆ClN₂O₃). Observed: 235.0842.



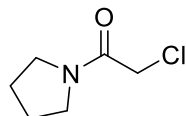
N-benzyl-2-chloroacetamide (DKM 2-67)

Following **General Procedure B** starting from benzylamine (430 mg, 3.1 mmol) product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 70% yield as a white solid (416 mg).

¹H NMR (400MHz, CDCl₃): δ 7.40-7.31 (m, 5H), 7.08 (s, 1s), 4.50 (d, *J* = 5.8 Hz, 2H), 4.09 (s, 2H).

¹³C NMR (100MHz, CDCl₃): δ 166.0, 137.4, 128.8, 127.8, 43.8, 42.6

HRMS (-ESI): Calculated: 182.0378 (C₉H₉NOCl). Observed:182.0378.



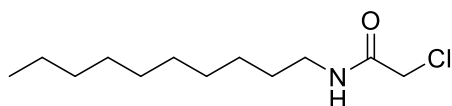
2-Chloro-1-(pyrrolidin-1-yl)ethan-1-one (DKM 2-71)

Following **General Procedure B** starting from pyrrolidine (511 mg, 3.0 mmol) product was obtained after silica gel chromatography (0% to 30% ethyl acetate in hexanes) in 83% yield as a clear oil (368 mg).

¹H NMR (400MHz, CDCl₃): δ 3.94 (s, 2H), 3.41 (quint, *J* = 7.2 Hz, 4H), 1.91 (quint, *J* = 6.3 Hz, 2H), 1.80 (quint, *J* = 6.6 Hz, 2H).

¹³C NMR (100MHz, CDCl₃): δ 164.7, 46.5, 46.3, 42.1, 26.1, 24.1.

HRMS (+ESI): Calculated: 170.0343 (C₆H₁₀ClNNaO). Observed: 170.0343.



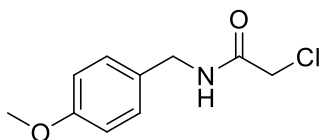
2-Chloro-N-decylacetamide (DKM 2-72)

Following **General Procedure B** starting from decylamine (472 mg, 3.0 mmol) product was obtained after silica gel chromatography (0% to 40% ethyl acetate in hexanes) in 81% yield as a white solid (555 mg).

¹H NMR (400MHz, CDCl₃): δ 6.71 (s, 1H), 3.97 (s, 2H), 3.22 (q, *J* = 6.8 Hz, 2H), 1.51-1.44 (m, 2H), 1.24-1.19 (m, 14 H), 0.81 (t, *J* = 6.8 Hz, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 42.7, 39.9, 31.9, 29.5, 29.29, 29.27, 29.22, 26.8, 22.6, 14.1.

HRMS (+ESI): Calculated: 234.1619 (C₁₂H₂₅ClNO). Observed:234.1618.



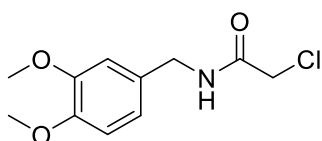
2-chloro-N-(4-methoxybenzyl)acetamide (DKM 2-83)

Following **General Procedure B** starting from 4-methoxybenzylamine (430 mg, 3.1 mmol) product was obtained after silica gel chromatography (0% to 40% ethyl acetate in hexanes) in 55% yield as an off-white solid (369 mg).

¹H NMR (400MHz, CDCl₃): δ 7.20 (d, *J* = 8.6 Hz, 2H), 6.91 (s, 1H), 6.86 (d, *J* = 8.6 Hz, 2H), 4.40 (d, *J* = 5.7 Hz, 2H), 4.05 (s, 2H), 3.78 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.9, 159.2, 129.4, 129.2, 114.2, 55.3, 43.4, 42.7

HRMS (+ESI): Calculated: 214.0629 (C₁₀H₁₃ClNO₂). Observed: 214.0627.



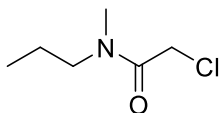
2-chloro-N-(3,4-dimethoxybenzyl)acetamide (DKM 2-93)

Following **General Procedure B** starting from 3,4-dimethoxybenzylamine (517 mg, 3.1 mmol) product was obtained after silica gel chromatography (0% to 50% ethyl acetate in hexanes) in 55% yield as an off-white solid (416 mg).

¹H NMR (400MHz, CDCl₃): δ 6.97 (s, 1H), 6.77 (m, 3H), 4.35 (d, *J* = 5.8 Hz, 2H), 4.01 (s, 2H), 3.81 (s, 3H), 3.80 (s, 3H).

¹³C NMR (100MHz, CDCl₃): δ 165.8, 149.0, 148.5, 129.8, 120.1, 111.13, 111.07, 55.83, 55.79, 43.6, 42.5.

HRMS (+ESI): Calculated: 266.0554 (C₁₁H₁₄NO₃ClNa). Observed: 266.0553.



2-Chloro-N-methyl-N-propylacetamide (TRH 1-53)

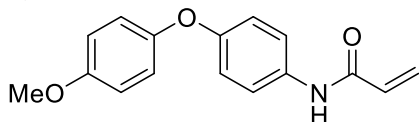
Following **General Procedure B** starting from *N*-methylpropylamine (147 mg, 2.0 mmol) product was obtained after silica gel chromatography (30% to 40% ethyl acetate in hexanes) in 64% yield as a white solid (191 mg).

¹H NMR (~46:54 rotamer ratio, asterisks denote minor peaks, 400 MHz, CDCl₃): δ 4.03* (s, 2H), 4.02 (s, 2H), 3.28* (t, *J* = 7.4 Hz, 2H), 3.23 (t, *J* = 7.5 Hz, 2H), 3.00 (s, 3H), 2.88* (s, 3H), 1.64-1.56* (m, 2H), 1.53-1.46 (m, 2H), 0.87* (t, *J* = 7.5 Hz, 3H), 0.83 (t, *J* = 7.5 Hz, 3H).

¹³C NMR (asterisks denote minor rotamer peaks, 100 MHz, CDCl₃): δ 166.4, 166.3*, 51.9*, 49.8, 41.5, 40.9*, 35.6, 33.6*, 21.6*, 20.1, 11.1, 11.0*.

HRMS (+ESI): Calculated: 150.0680 (C₆H₁₃NOCl). Observed: 150.0678.

Synthesis and Characterization of YP 1-46



N-(4-(4-methoxyphenoxy)phenyl)acrylamide (YP-1-46)

To a solution of 4-methoxyphenol (622 mg, 5 mmol) in DMF (2 mL) was added potassium carbonate (1.38 g, 10 mmol). After 10 minutes of stirring, 1-fluoro-4-nitrobenzene (0.43 mL, 4 mmol) was added and the reaction was stirred overnight. As the reaction was not complete by TLC after 21 hours, the reaction was heated to 90 degrees for 1 hour at which point the reaction was found to be complete. The reaction was then diluted with water and extracted three times with ethyl acetate. The combined organics were dried with magnesium sulfate and concentrated to give 1.07 g of crude 1-methox-4-(nitrophenoxy)benzene as a yellow solid that was used without further purification.

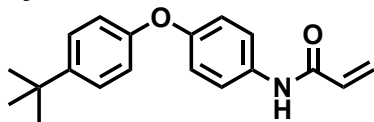
To a stirring solution of the resulting crude (490 mg, ~2 mmol) and 10% palladium on activated charcoal (49 mg) in methanol (4 mL) was added triethylsilane (2.33 g, 20 mmol) dropwise through an addition funnel under a nitrogen-filled balloon. After 30 min, the mixture was filtered through celite and the solvent was removed in vacuo. Without further purification, the obtained crude product was dissolved in DCM (10 mL) and the resultant solution was cooled to 0 °C. To the solution was added acryloyl chloride (217 mg, 2.4 mmol) followed by triethylamine (243 mg, 2.4 mmol). The solution was allowed to warm to room temperature after 20 min and stirred overnight. The solution was washed two times with brine and the crude product was purified via silica gel chromatography (30% to 70% ethyl acetate in hexanes) to afford 161 mg of the product as a white solid (33% yield over 3 steps).

¹H NMR (400MHz, CDCl₃): δ 7.94 (s, 1H), 7.50-7.48 (m, 2H), 6.96-6.92 (m, 2H), 6.90-6.84 (m, 4H), 6.40 (dd, *J* = 1.6, 16.8 Hz, 1H), 6.27 (dd, *J* = 10.1, 16.8 Hz, 1H), (dd, *J* = 1.6, 10.1 Hz, 1H), 3.79 (s, 3H).

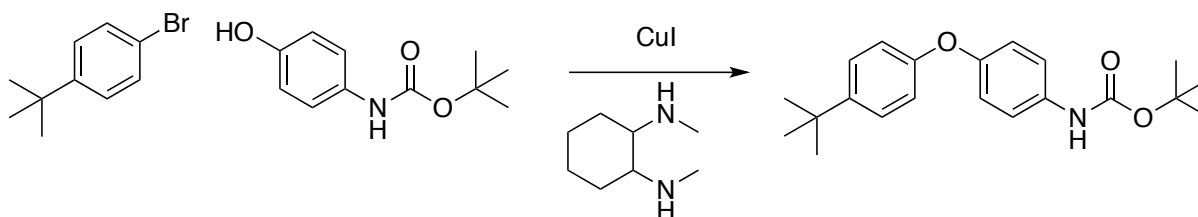
¹³C NMR (100MHz, CDCl₃): δ 163.8, 155.8, 155.1, 150.4, 132.6, 131.1, 127.6, 121.9, 120.5, 118.2, 114.9, 55.7.

HRMS (+ESI): Calculated: 270.1125 (C₁₆H₁₆NO₃). Observed: 270.1125.

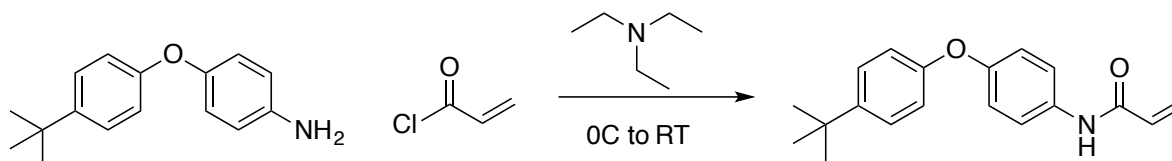
Synthesis and Characterization of AMR 1-125



N-(4-(4-(tert-butyl)phenoxy)phenyl)acrylamide (AMR 1-125)



An oven dried round bottom flask was charged with a magnetic stir bar, copper (I) iodide (38mg, 0.2 mmol), N-Boc-4-hydroxyaniline (502mg, 2.4 mmol), potassium carbonate (552.8mg, 2 mmol), and crushed 4 angstrom sieves (~200mg). The flask was evacuated and filled with nitrogen twice. Under nitrogen, 1-Bromo-4-*tert*-butylbenzene (346uL, 2 mmol) and *N,N'*-Dimethyl-1,2-cyclohexanediamine (62uL, 0.2 mmol) were added along with 2mL of butyronitrile. The flask was allowed to react at 70C for 24 hours. At the end of the reaction, the mixture was diluted with CH₂Cl₂ and rinsed through Celite to remove inorganic salts and other solids. The crude reaction mixture was purified using column chromatograph (10% ethyl acetate in hexanes). The product was a yellow oil (yield 31%).



An oven dried round bottom flask was charged with the amine starting material (154.2mg, 0.6mmol) along with dry CH₂Cl₂ and allowed to cool to 0C. Acryloyl chloride (69.4mg, 0.8mmol) was then added to the flask, followed by triethylamine (196uL, 1.4mmol), and the reaction was allowed to come to room temperature overnight. At the end of the reaction, the mixture was washed with brine and then purified using column chromatography (10% ethyl acetate in hexanes). The product was a waxy, white solid (yield <10%).

¹H NMR (900MHz, CDCl₃): δ 7.51 (d, 2H, J=8.5Hz), δ 7.31 (d, 2H, J=8.5Hz), δ 6.97 (m, 2H,), δ 6.90 (m, 2H,), δ 6.42 (d, 1H, J=16.8Hz), δ 6.22 (dd, 1H, J=16.8, 10.3 Hz), δ 5.75 (m, 1H,), δ 1.3 (s, 9H).

¹³C NMR (900MHz, CDCl₃): δ 163.4, 155.1, 154.2, 146.3, 133.0, 131.2, 127.9, 126.7, 121.7, 119.5, 118.3, 34.5, 31.7, 29.9

HRMS (+ESI): Calculated: 296.1645 (C₁₉H₂₁NO₂) Observed: 296.1643.

Appendix 2-2. Covalent ligand screening data. SW620 cells were treated with either DMSO or cysteine-reactive fragment (50 μ M) for 48 h after which serum-free cell survival or proliferation were assessed by Hoescht staining. Shown are average and sem values from n=3/group.

SW620 survival	Avg	sem	p value		SW620 proliferation	Avg	sem	p value
DKM 3-30	0.30660 6886	0.05698 9117	0.02213 4468		DKM 2-94	0.32328 6425	0.02918 1847	0.00026 9142
DKM 3-16	0.33790 081	0.04113 0092	0.02280 4386		DKM 2-71	0.41465 8775	0.01301 6339	4.05508E -06
DKM 2-40	0.35511 3663	0.03203 7012	0.00311 3124		DKM 2-98	0.41667 7045	0.01635 6386	6.50504E -06
DKM 2-91	0.38206 2732	0.03332 7139	0.00089 675		DKM 2-83	0.47779 1761	0.03313 836	0.00093 3188
DKM 2- 101	0.39229 6911	0.06433 0275	0.00756 8126		DKM 2-80	0.47822 9212	0.02259 2141	0.00050 2012
DKM 3-10	0.41110 4436	0.05713 7278	0.00704 7036		DKM 2-76	0.49649 0029	0.03229 1156	0.00102 0204
DKM 2-94	0.43095 6498	0.04836 4539	0.00238 5156		DKM 3-70	0.53049 0697	0.01587 6322	2.15237E -05
DKM 2-76	0.44237 5493	0.07362 6826	0.00708 115		DKM 2-52	0.53235 2055	0.02014 819	5.62731E -05
DKM 2-80	0.46927 6425	0.07656 8906	0.00935 3129		TRH 1-55	0.53251 5006	0.08581 5137	0.01678 7282
TRH 1-55	0.47494 7026	0.04131 2053	0.00236 5117		DKM 3-30	0.53990 8512	0.02591 5439	0.01502 823
TRH 1-12	0.48750 3533	0.03290 2278	0.00723 549		DKM 2-93	0.57063 1878	0.03836 6743	0.00265 7648
DKM 3-7	0.50754 5355	0.03809 2157	0.05455 0853		DKM 2-91	0.59467 2452	0.03124 9574	0.00218 281
DKM 2-95	0.51717 9832	0.10242 2848	0.03890 3195		DKM 3-16	0.60203 2918	0.03279 4068	0.02620 2588
DKM 3-43	0.51963 7287	0.08047 7391	0.07865 9349		TRH 1-53	0.72104 6149	0.05960 07	0.03315 8233
DKM 2-98	0.52414 1209	0.12682 9983	0.03640 0057		DKM 2-67	0.73111 4338	0.00563 7245	3.21269E -06
DKM 3-36	0.53806 8365	0.09230 7252	0.09564 4106		DKM 2-37	0.73382 8089	0.02195 611	0.00145 3964
TRH 1-32	0.55000 1217	0.09885 5746	0.10045 3518		DKM 2-59	0.73900 5512	0.03132 4617	0.00305 7884
DKM 3-41	0.55029 8638	0.08826 4813	0.09874 7793		TRH 1-50	0.76461 37	0.03806 1476	0.00870 9497
DKM 3-70	0.57438 6956	0.11063 8221	0.12641 1699		DKM 3-10	0.78768 1886	0.10219 31	0.21231 0226
DKM 2-37	0.57479 4017	0.18340 2421	0.10919 892		DKM 3-5	0.81528 7886	0.02722 0639	0.00303 3719
TRH 1-50	0.57691 9713	0.07154 1268	0.09260 6859		DKM 2-84	0.83596 8439	0.04977 2152	0.03171 5111
DKM 3-5	0.58623 0751	0.03821 9248	0.01208 3118		DKM 2-48	0.84689 5918	0.04314 9557	0.03854 5247

DKM 2- 108	0.61258 2703	0.01780 652	0.01364 4465		DKM 2-95	0.85489 2548	0.01121 1287	0.06522 3892
DKM 3-31	0.64899 5421	0.08309 4332	0.16406 7696		TRH 1-12	0.88798 5921	0.06521 6595	0.18601 5736
DKM 2-83	0.65735 6274	0.07013 3936	0.03179 8652		DKM 2-116	0.89659 7875	0.02643 5811	0.02108 8225
DKM 2-59	0.66294 045	0.07318 367	0.04922 0124		DKM 3-41	0.93370 6644	0.04617 0689	0.61834 4482
TRH 1-53	0.69292 6974	0.06758 3873	0.04079 0567		DKM 3-13	0.93616 9984	0.02625 4095	0.60153 639
DKM 3-32	0.69621 0673	0.07332 5842	0.20344 0957		DKM 3-43	0.93883 509	0.01349 1316	0.60441 2802
DKM 2-93	0.73723 5579	0.05838 9236	0.04794 3135		DKM 3-32	0.94553 4216	0.02731 7623	0.65544 2364
DKM 2-84	0.73741 0851	0.06853 3742	0.07662 3617		DKM 2-62	0.95190 0478	0.01546 6708	0.05644 7858
DKM 2- 113	0.74586 5144	0.03172 8278	0.06078 064		DKM 2-110	0.95368 8738	0.06380 2492	0.51238 4909
DKM 3-9	0.75463 2372	0.02831 5416	0.24442 9691		DKM 2-108	0.95425 0983	0.11077 7759	0.78047 6206
DKM 2- 114	0.75997 8853	0.03482 671	0.07417 2629		DKM 2-120	0.95835 1408	0.01152 5941	0.04868 4322
DKM 3-13	0.76747 2891	0.05602 7814	0.28920 8997		DKM 2-109	0.95884 5586	0.02306 0043	0.17365 1039
DKM 2-34	0.78050 4195	0.01710 4938	0.08759 8447		DKM 2-97	0.96082 9971	0.05221 1902	0.50125 6229
DKM 2-47	0.78362 133	0.04985 2169	0.11612 0806		DKM 2-101	0.96202 6335	0.05225 9147	0.68661 8609
DKM 3-29	0.79233 9259	0.04701 4126	0.31105 6364		DKM 3-36	0.97337 2248	0.03512 338	0.83069 5652
DKM 2-49	0.80085 4309	0.06436 6289	0.16003 7749		DKM 2-40	0.97712 2752	0.00894 8405	0.45355 1197
DKM 2-71	0.81490 8894	0.07556 0073	0.39587 0089		DKM 2-107	0.98543 9364	0.08674 7763	0.91293 2595
DKM 2-43	0.84212 5151	0.05519 9293	0.22716 9421		DKM 3-31	0.99426 023	0.03504 8143	0.96311 7369
DKM 2- 107	0.85735 495	0.04878 5475	0.26156 5517		DKM 2-100	0.99665 4157	0.03505 2907	0.93096 7387
DKM 2-67	0.86712 7976	0.14078 0933	0.62042 4476		DKM 3-7	0.99749 4674	0.01237 8724	0.98271 6965
DKM 2-50	0.88561 6685	0.01550 3525	0.30480 7542		TRH 1-32	0.99789 9182	0.03050 6964	0.96001 8493
DKM 2-31	0.89422 5624	0.04129 1365	0.36879 1517		DKM 2-72	1.00111 0514	0.02527 3175	0.97447 9914
DKM 2-48	0.89844 8559	0.04925 2692	0.39997 4076		DKM 3-9	1.00203 2785	0.09648 5633	0.99073 525
DKM 2-32	0.90654 1965	0.10892 3829	0.55486 1497		DKM 2-106	1.00247 8305	0.01641 5116	0.90203 8636
DKM 2-33	0.91609 6991	0.07868 706	0.53619 3984		DKM 2-60	1.00395 6785	0.04779 3568	0.96431 2632
DKM 2-52	0.92037 9497	0.09768 5065	0.72455 8091		DKM 2-86	1.02374 3856	0.12583 6909	0.89671 661
DKM 2-39	0.93287 4836	0.05142 6657	0.57107 2022		DKM 3-8	1.04572 2076	0.00332 4928	0.69278 2302
TRH 1-13	0.94234 7437	0.04823 2721	0.62004 1946		DKM 2-34	1.04997 4155	0.07209 6622	0.55009 8033

DKM 2-72	0.96260 9864	0.05614 8195	0.84853 0624		DKM 2-111	1.05643 9945	0.01321 4812	0.02529 0247
DKM 2-58	0.97779 4494	0.05369 744	0.84989 1842		DKM 3-12	1.06474 6877	0.05610 5628	0.64370 9823
TRH 1-19	1.01324 4669	0.06027 1908	0.91631 1935		DKM 2-49	1.08827 7372	0.02328 1555	0.06505 5747
DKM 2-	1.01641	0.05788	0.88273		DKM 2-39	1.10101	0.02928	0.06161
120	2308	762	2253			6012	0834	5115
DKM 3-42	1.03885 691	0.20886 1512	0.90864 8774		DKM 2-114	1.10550 4011	0.07824 3449	0.41211 0965
DKM 2-42	1.04079 3076	0.03568 6065	0.71080 6957		DKM 2-47	1.11678 3781	0.02001 4825	0.02377 4054
DKM 2-97	1.06304 0937	0.26712 1694	0.83342 8521	DKM 2-103	1.11962 8221	0.10985 5657	0.47626 4358	
DKM 2-60	1.07722 4637	0.16163 3463	0.75076 4514		DKM 3-42	1.12430 4818	0.07494 3108	0.26822 1309
DKM 2-86	1.09220 3543	0.12606 4713	0.64540 8347		DKM 2-32	1.14469 0474	0.12272 4503	0.31304 632
DKM 2- 110	1.12078 6999	0.16590 9839	0.55412 2348		DKM 2-33	1.15008 3978	0.10690 3117	0.24431 0787
TRH 1-20	1.13791 9573	0.04524 4288	0.26555 2223		DKM 2-58	1.15698 1213	0.03543 2672	0.02343 0164
DKM 2-62	1.15356 846	0.08535 5078	0.27596 9491	DKM 2-31	1.15728 3342	0.09198 4333	0.17531 8508	
DKM 3-11	1.19885 9218	0.17913 7907	0.53156 5459		DKM 3-11	1.17976 5812	0.01971 9218	0.17909 4699
DKM 3-4	1.22189 6476	0.03054 3898	0.08528 6158		TRH 1-19	1.18944 2589	0.06932 2145	0.14670 5213
DKM 2- 116	1.22727 7893	0.20125 0014	0.35840 3678	DKM 3-4	1.19715 4652	0.09542 4614	0.21850 8161	
DKM 2- 102	1.24378 8835	0.05239 661	0.09503 1156		DKM 3-29	1.21070 1961	0.04190 22	0.01761 6555
DKM 3-12	1.28819 4484	0.09417 9417	0.24947 4195	TRH 1-20	1.21463 0286	0.11475 0335	0.24655 0361	
DKM 2- 111	1.33289 746	0.22527 8366	0.24008 0854		TRH 1-27	1.25415 4222	0.07997 6644	0.06957 5542
DKM 2- 103	1.35050 1637	0.05989 8758	0.04120 4031		DKM 2-43	1.27597 5496	0.02939 1836	0.00216 6962
DKM 2- 100	1.37624 6154	0.03252 2242	0.01542 1639	TRH 1-13	1.27912 0775	0.03962 9877	0.00417 3915	
DKM 2- 109	1.39726 0387	0.02466 1634	0.01171 8831		DKM 2-50	1.30404 3479	0.01041 7594	0.00041 3725
TRH 1-27	1.43849 6026	0.23790 4295	0.27895 4818		DKM 2-102	1.32743 2615	0.04704 1006	0.01648 5849
DKM 2- 106	1.44066 2577	0.25283 5971	0.17465 5498		DKM 2-42	1.36650 0508	0.00245 6401	0.00015 1716
DKM 3-8	1.51946 0533	0.08821 1957	0.06850 898		TRH 1-54	1.39356 2473	0.00680 8191	1.49026E -06
TRH 1-54	1.75382 2295	0.24154 7841	0.10061 9546		DKM 2-113	1.47354 594	0.07287 8537	0.01233 7171

Appendix 2-3. IsoTOP-ABPP analyses of DKM 3-5 and DKM 3-30 in SW620 cells. SW620 cell proteomes were pre-treated with DMSO or DKM 3-5 (50 μ M) or DKM 3-30 (50 μ M) for 30 min at 37°C prior to labeling of proteomes with IAYne (100 μ M) for 1h at room temperature. Proteomes were then subjected to copper-catalyzed azide-alkyne cycloaddition with a biotin-azide tag bearing an isotopically light (for DMSO-treated) versus heavy (for ligand-treated) valine and a TEV protease recognition site. Proteomes were then mixed in a 1:1 ratio and probe-modified peptides were enriched and released by TEV protease for subsequent quantitative proteomic analysis. The data was filtered for only those probe-modified peptides that were identified in at least 2 out of 3 runs. Ratios for the same redundant probe-modified peptides and peptides across runs were averaged. Top hits of covalent ligands were confirmed to have more than one light to heavy ratio greater than 2. Shown in Tabs 1 and 3 are the final consolidated and averaged light to heavy ratios for those peptides only observed in at least 2 out of 3 biological replicates for isoTOP-ABPP studies with DKM 3-5 and DKM 3-30, respectively. Shown in Tabs 2 and 4 are the raw data and ratios for the total peptides identified across all 3 biological replicates for isoTOP-ABPP studies with DKM 3-5 and DKM 3-30, respectively.

Peptide	Modified Residue	Avg. Ratio	Uniprot ID	seen in
YSNSALGHVNC*TIK	C1101	3.03808665	Q9NQC3 F8W914	3
AYEYVEC*PIR		2.53694826	P53701	2
APPWVPAMGFTLAPSLGC*FVGSR	C19	2.51111954	B1AH87 P30536	2
YYGGAENVDEIELLC*QR		2.42664368	G3V5L0	2
KVIGIEC*SSISDYAVK	C101	2.39921406	Q99873	2
TYDPSGDSTLPTC*SK		2.34664	Q9Y2X3	2
FTTSC*MTGYSPQLQGLSSGGSGSYSPGVITYSPVSGYNK	C158 C157	2.30655747	Q96SK2 Q96SK2	2
SLVQNNCLSRPNIFLC*PEIEPK	C145	2.27943299	Q8TAQ2 Q8TAQ2 Q8TAQ2 F8VXC8	2
LWNTLGVC*K		2.21603058	P63244	2
SLPSAVYC*IEDK	C674	2.20207684	O43290	2
EGGQYGLVAAC*AAGGQGHAMIVEAYPK	C436	2.14166255	P55084	2
AAIGC*GIVESILNWVK	C486 C431	2.1371498	P11388	2
LC*PLKDEPWPIHPWEPGSFR	C105 C78	2.11255406	E7ETU7 H0Y9G6 E9PF06 P09001	2
VIEASDVVLEVL DARDPLGC*R	C144	2.08317503	Q9BVP2 Q9BVP2	2
YVAAAFPSAC*GK	C172	2.07373933	B4DW73 Q16822	3
VC*TLAIIDPGDSDIIR	C92	2.06285771	P62888 E5RI99	2
STPYEC*GFDPMSPAR	C39	2.01022356	P03897	2
VALEGLRPTIPPGISPHVC*K	C361	2.00435826	Q13418	2
	C453		Q13418 A0A0A0MTH3 Q13418	
LLEETGIC*VVPGSGFGQR	C477	1.94223026	Q8TD30	2
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HVVC*AAETGSGK		1.81784259	Q9NUL7	3
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IDRYTQQGFGLNPLIC*MAK	C841 C906 C907	1.77468753	A0A087WVM4 Q6UB35 B7ZM99	2
AVC*MLSNNTAIAEAWAR	C376	1.77339068	P68366 Q13748 Q9NY65 C9J2C0 Q71U36 Q9NY65 P68366	3
LC*YVALDFENEMATAASSSSLEK	C219	1.74230926	P68133	3
			P68032	
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VIGSGC*NLDSAR	C192	1.71070171	P00338	2

			P07195	
			P00338	
VLPMTGVEAGETAC*K		1.70882272	P04181	2
AVLLVGLC*DSGK	C73	1.69690794	Q9Y5M8	3
VTDDLVC*LVYK		1.69629998	P49458	2
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NCAVSC*AGEK	C141	1.66567494	Q15813 Q15813	2
GC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374	1.66214235	P22234	2
TIQFVDWC*PTGFK	C347	1.65831063	Q13748 Q9BQE3 Q9NY65 C9J2C0 Q71U36 Q9NY65	2
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LALFNPDVC*WDRNNPEPWNK	C44	1.65313053	O00483	2
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C*SGIGDNPGETAAPR	C1317	1.64434432	H0YAC6 P50851	2
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LQSGIC*HLFR		1.63952553	P14868	2
TIYAGNALC*TVK	C155	1.6292925	P13804	3
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NFYGGNGIVGAQVPLGAGIALAC*K	C188 C219	1.5670335	P08559	2
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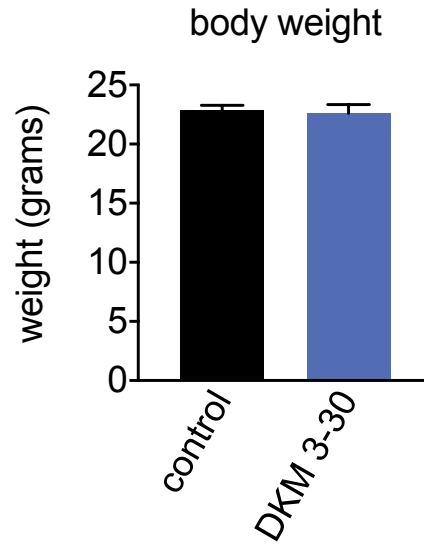
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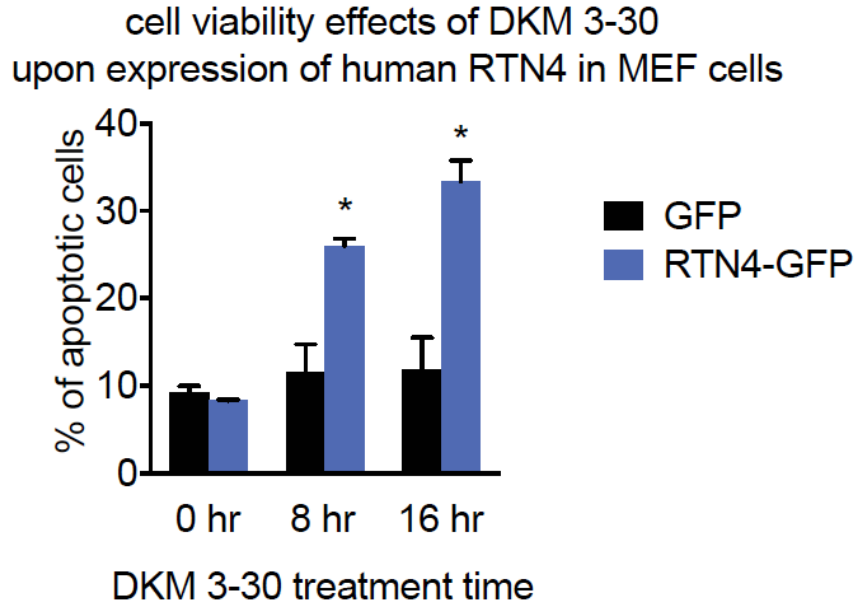
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GSDELFC*VTNGPFIMSSNSASAANGNDSKK	C23	1.28503662	A0A0U1RRM4 P26599 P26599	3
AYHEQLTVAEITNAC*FEPANQMVK	C295 C365	1.28267065	Q9BQE3 F5H5D3	2
INPYMSSPC*HIEMILTEK	C106 C144	1.28196342	J3KRX5 J3QLC8 A0A087WXM6 P18621 A0A0A6YYL6 J3QQT2 P18621	2
YIYDQC*PAVAGYPIQLPDYNR	C453	1.28086198	P31930	2
C*ELSSSVQTDINLPLYLTMDSSGPK		1.27796511	P38646	3
GC*LLYGPPGTGK		1.27436825	A0A087X2I1 P62333	3
ALNALC*DGLIDELNQAALK		1.27434754	P30084	3
NTPSFLIAC*NK	C179	1.27116999	Q9Y5M8	2
C*MPTFQFFK		1.27070282	P10599	3
TGNPMSVC*GR	C493	1.27005913	O95793 O95793 O95793 A0A087X1A5 Q5JW30	2
HELQANC*YEEVKDR	C139 C177	1.26932573	E9PK25 G3V1A4 P23528	3
AFAVTFADDQIAQSLC*GEDLIK	C244	1.26849554	A0A087X260 A0A087WYY0 B1AKP7	2
			Q13148 G3V162	
LTPGC*EAEATEAICFFVQQFTDMEHNR	C2359	1.26429021	P49327	2
LECVPC*R		1.26300307	Q969Q0	2
SYC*NDQSTGDIK	C106	1.26284516	P00492	2
ATC*APQHGAQPGPADASK	C2516 C2535	1.26183717	P21333 A0A087WWY3 Q60FE5 P21333	2
ATYDKLC*K		1.26161979	P62851	2
GSC*STEVEKETQEK	C69	1.26098754	O75348	2
TVDSQGPTPVC*TPTFLER		1.25809516	Q9BYG3	2
LC*YVALDFEQEMAMVASSSLEK	C880	1.25597356	P0CG39	3
VFIMDSC*DELIPEYLNFR	C366	1.25136211	P08238	3
HC*SQVDSVR	C112	1.24909716	Q14247 Q14247 Q14247	2
AAAPAPEEEMDEC*EQALAAEPK	C266	1.24801537	P26641	2
EKTAC*AINK	C293	1.2460795	Q8NCA5 E9PH82 Q52LJ0 Q8NCA5 Q52LJ0	2
SGTIC*SSELPGAFAEAGFHLNEHLYNMIIR	C200	1.24306972	A0A0C4DQG5 P04632 K7ELJ7	2
TASISSPSEGTPTVGSYGC*TPQSLPK	C787	1.24042598	Q6PKG0 Q6PKG0	3
EVIASCGPAQC*QETIR	C162	1.23744029	P38117	2
NC*PHVVVGTGR	C164	1.23698375	O00148	3
SC*PSFASSEGTR	C9	1.2364364	D6RCP9 P27707 D6RFG8 D6RG38	2
GLIAAIC*AGPTALLAHEIGFGSK	C86	1.23001091	Q99497 K7ELW0 K7EN27	2
LYYFYPC*YQEGLR		1.22870856	Q9NRW3	3
GC*WDSIHVVEVQEK	C135 C176	1.22164672	P47756 P47756 B1AK88 B1AK87 B1AK85	2
SCYDLSC*HAR		1.21645888	P41250	2
VGSFC*LSEAGAGSDSFALK	C73	1.21430515	P45954	2
AINC*ATSGVVLVNLCLR	C1448	1.21332206	P49327	2
TSVPSPC*GK	C260	1.21330821	P49748	2
INEIVYFLPFC*HSELIQLVKN	C513 C371 C572	1.21132483	Q9H078 Q9H078 Q9H078 Q9H078 Q9H078 H0YGM0	2
IGFPETTEEEIEIASENSDC*IFPSAPDVK	C353	1.2085197	Q9Y3F4 Q9Y3F4	2
IVGYFVSGC*DPSIMGIGVPAISGALK	C287	1.20678041	A0A0B4J2A4 P42765	2
RGPC*IIYNEDNGIHK	C208	1.20670047	P36578	2
AALVTSFC*MFKYMALYSMIQR	C542	1.20030456	H0Y4Z2	2
ESLNASIVDAINQAADC*WGIR	C167	1.20004754	Q9UJZ1	2

EEHLC*TQR		1.19846195	J3KN67	2
GC*GVVKFESPEVAER		1.19669217	P52272 P52272 A0A087X0X3	3
KC*SASNR	C17	1.18869135	Q8WVC2 Q9BYK1 P63220	2
TPC*SSLLPLLNAHAATSGK	C307 C367 C397	1.17507629	B8ZZZ7 Q9NUQ6 A0A0A0MSG5 Q9NUQ6 Q9NUQ6 Q9NUQ6	2
VSLDPELEEALTSASDTELC*DLAAILGMHNLITNTK	C132	1.17069609	Q9NYL9	3
FDPTQFQDC*IIQGLTETGTDLEAVAK	C35 C39	1.16681369	Q7L1Q6 C9IZ80 Q7L1Q6 Q7L1Q6 Q7L1Q6	2
LGGSLIVAFEGC*PV	C146	1.15762988	P60981	2
TQYSCYC*CK	C229	1.15467068	Q9UGI8 Q9UGI8	2
IC*PVEFNPNFVAR		1.15353869	Q9UI30 F5GX77	2
TPSYSISSTLNPQAPEFILGC*TASK	C142	1.14619275	Q14694 H3BQC6 Q14694 Q14694	2
ASVGFGGSC*FQK	C209	1.14288174	O60701 O60701	2
NTGQTC*VCSNQFLVQR		1.13090774	C9J8Q5 P01763 P51649	2
FQSSAVMALQEASEAYLVGLFEDTNLC*AIHAK		1.12440124	Q71DI3	2
AGAVVAVPTDLYGLACAASC*SAALR	C99	1.11060194	Q86U90	3
AVLLASDAQEC*LEEVVER	C332	1.10310789	Q27J81 Q27J81	2
FQSSAVMALQEACEAYLVGLFEDTNLC*AIHAK	C111	1.07958576	P68431	2
NMITGTSQADC*AVLIVAAGVGEFEAGISK		1.07883348	P68104 Q05639 A0A087WVQ9	2
GNHEC*ASINR	C83 C126	1.04910159	P62136 P62140	3
LC*DFGVSGQLIDSMANSFVGTR	C207 C211 C114	1.0352245	G5E9C7 Q02750 P36507 Q02750	2
SC*GSSTPDEFPTDIPGTK		1.0186588	P41091	2
GTLTLC*PYHSDR	C620	0.9961605	Q13200 Q13200 Q13200	2
LSLDGQNIYNAC*CTLR	C250 C281	0.94660721	A0A0U1RRM4 P26599 P26599 P26599	2
ADASSTPSFQQAFASSC*TISSNGPGQR	C688	0.9392041	Q68CZ2 Q68CZ2	2
STLTDSLVC*K	C41	0.93733209	P13639	3
SDITKLEVDIVNAANSLLGGGGVDGC*IHR	C186	0.90524177	Q9BQ69	2
LC*EPEVLNSLEETYSPFFR	C261 C177 C224	0.9025738	H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 G3V256 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7	2
C*PAPPRGPPAPAPEVEELAR	C161	0.80715207	P48681	2
AAC*LESQAEPAGAWGNK	C53	0.75933034	A0A024R4E5	2
LHTGPLPEQC*R	C163	0.68394162	A0JLT2 J3KR33 A0JLT2	2
FQSAAGALQEASEAYLVGLFEDTNLC*A		0.66202651	K7EK07 P84243	2
FQSSAVMALQEAREAYLVGLFEDTNLC*AIHAK	C111	0.64596116	Q5TEC6	2
HLNEIDLHC*IDPNDSK	C62 C58	0.59088167	A0A087WYT3 Q15185 Q15185	2
QC*PIMDPAWEAPEGVPIAIFGGR	C297	0.28659591	B4DW73 Q16822	3
SEC*DQDYIPETDQDC*SMSPCQRTPDGLAQHPFNEDYR	C1290 C1250 C1278 C1262	0.11891909	Q9P2N4 Q9P2N4 H0Y859 Q9P2N4	2

Appendix 2-4. Body weight of mice treated with DKM 3-30 in tumor xenograft studies. Mice from tumor xenograft studies shown in Fig. 1E were weighed at the end of the study. The mice treated with DKM 3-30 did not show any significant changes in body weight compared to vehicle-treated control mice. Data are presented as mean \pm sem, n=8 mice/group.



Appendix 2-5. Effect of DKM 3-30 in Mouse Embryonic Fibroblast (MEF) cells expressing human RTN4. C1101 in human RTN4 is instead a serine in mouse RTN4. DKM 3-30 does not induce apoptosis in GFP-expressing MEF cells, but induces apoptosis in MEF cells expressing human RTN4-GFP. GFP or RTN4-GFP expressing MEF cells were treated with DKM 3-30 (50 μ M) for 0, 8, or 16 h and apoptotic cells (propidium iodine positive and Annexin-V positive) were assessed by flow cytometry. Data are presented as mean \pm sem. Significance is expressed as * p <0.05 compared to 0 h time-point.



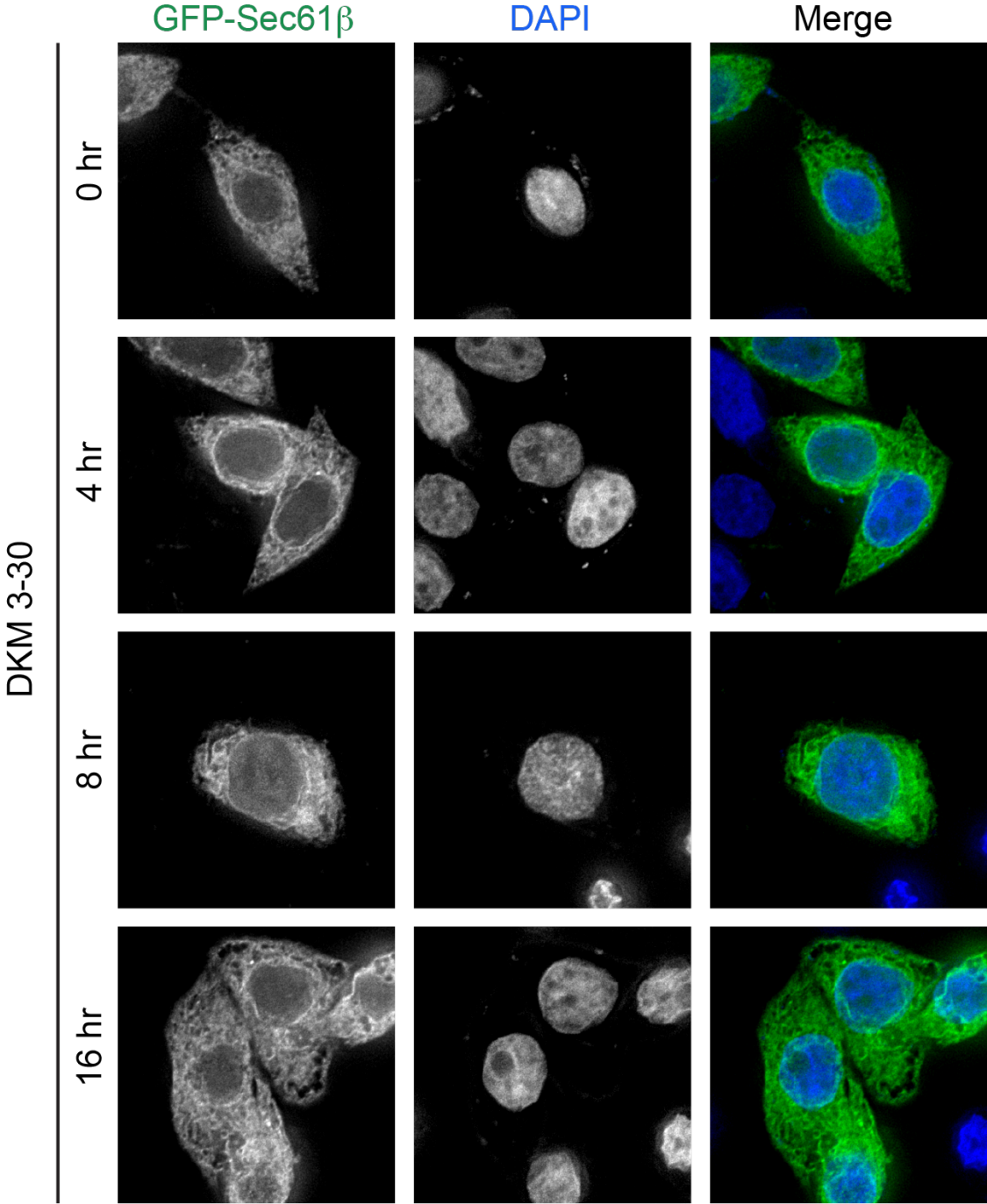
Appendix 2-6. Sequence alignment of human and xenopus laevis RTN4. The position of the shared cysteine in human RTN4 (C1101) and xenopus laevis RTN4 (C952) is indicated by the red arrow. The shaded amino acids indicate shared sequence identity (*black*) or similarity (*gray*).

Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	1 1	ME DLD QS PL VSS S DS SP RP Q PA F KY Q F VRE PE EEEEEEEEEE DE D LE EELE VLE R KPA --M D E Q S P D I S SS H S -----G D ER R EP A Q P G E R KP W
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	61 30	AG T SA AP V P T A P A G A L M D F G N D F V P P A F R G L P A A P P V A F E R O P S W D P S P S S T V P A F D D L D D V L D L-T--G G --AG Q F S Q P F S G S H P A R D I E EEEEE E DE ER G A W K D S L E P S P V E E-
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	121 84	S E L S A A A V S P S K L P E D E F F A R P P P P S V S P Q A E P V W T P A P A A P P S T F A A P K R R G E G S I D S I S -----P-----V S E H S P A V P S A E M E E E -----E R E P A - P C T A
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	181 119	S G S V D E T L F A L P A A S E F V I R S S A E N M D L K E Q F G N T S A G Q E D F F S V L L E T A A S L P S L S P P S G S V D E N L F T L P A A S A H L M H A S A D K ---I M E P F I S T V S T G Q E E F A S V L L O S T A S L S L S P
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	241 176	L S A A S F K E H E I L G N L S T V L P T E G T L Q E N V S E A S K E V S E K A K L L L I D R L D L T F S E L E I Y S E M L S T D S S K E H A E T V A F P G L A A T E A L Q E P T D N M I - S V S R-----I
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	301 214	G S S F S V S P K A E S A V I V A N P R E E I I V K N K D E E K L V S N N I L H N O E L P T A L T K L V K E D E V V T S H L P L S D N L E S K A L-D Q V K E V F I F S E K G ----Y V V D H P T S Q Q E T -----S E H A K L
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	361 262	S S E K A K D S F N E K R V A V -----E A P M R E E V A D F K P F E R V E V K D S K E D S D M L A A G G K Y Q S A K E M E F S G M L O S V A P P H E F T D I K E V I D P V D F K P F M S S K S G D V G E V S D V-----
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	412 316	E S N L E S K V D K K F A D S L E---Q T N H E K D S E S N D D T S F P S T P E G I K D R S G A V I T C A P F N - A E K F Q V D V G R L N L E S A V K H E S S E M E I D S - I S D I S P L T P E L L P D S T-D V D M F A T--
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	469 371	P A A T E S I A T N I F P L L G D P T S E N K T D E K K I E K K A Q I V T E K-N T S T K F S N P F L V A A Q D S E T ---- V E Q N I P E S F G G H V A G N K T D E K K I E D I E A Q K T S V G E G L K V A V N P F Y N E - S A Q E S
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	528 425	D V V T D N L T K V T E E V V A N M P E L T P D L V O E A C E S L N E V T G T K I A E T K M D L V Q T S E - V M E V V T H V ---- A T H V S T K P E F T P D T V O E A V E S E A D T G I P K O K E S N I D L V Q T A N S V
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	587 480	Q E S L V P A A Q L C P S F E E S E A T P S P V L P D I V M E A P L N S A V P S A C A S V I Q P S S S P L E A - S S V N Q E K V S P T A Q A P A R L E E T D S V S P V L P D I V M E A P L S A L E T V A --- L K P D I S E V G I K P P A R
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	646 537	Y S I K H E P E N P P P Y E E A M S V S I K K V S G I K E E I K E P E N I N A A L Q E T E A P I S I A C D L I K E T V E K T K A E P E K P S Y E E A V T E V Q N Q D L A-A- A L G G S K O G A V V E E T E P P I S I A C D L I K E T
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	706 595	K L S A E P A P D F S D Y S E M A K V E Q V P D H S E L V E D S S P D S E P V D L F S D D S I P D V P O K Q D E T V M E S V A S G F T E F S K L K Q N E F E S Q ---- F M E P S D E S S P D S E C S E P S I K Q W D S E V V Q K - S A F S
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	766 649	L V K E S L T E T S F E S M I E N K E K L S-- A L P E G G K P L S F K L S L D N T K -- D T L P D E V S T I K T E S V N A --- Q S I I I P E O K Q V D Q K S E S S P S K S Y L D S F Q P E I C V S K A T S D L F A R G L T
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	822 706	L S K K E K I P L Q M E E L S T A V S N D D L F I S K E A Q I R E T E T F S D S S F I E I D E F P T L I S S K T D S L--L Q E K P L Q M E E L D E G L S L E K I - P C T K I S P V S E S --- P E P R F S--- P V E D L S S K L G D
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	882 756	F S K---L A R E I T D L E V S H K S E I A N A P D G A S L F C T E L F H D L S L K N I Q P K V E E K I S F S D D F I Q K E V L I A K Q P E D K V Q K N R S N L D F V P E N I E F T P A V Q K P D D S G--- K A V S D T F G G L D T T
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	939 811	S K N G S A T S K V L L P P D V S A L A T Q A E I E S I V K P K V L V K E- A E K L P S D T E K E D R S P S A I F S T K G G S A V H E V K----- V D K P K P P S K E D D G S K L P K K E S ----- K A S T V S
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	998 849	A E L S K T S V V D L E Y W R D I K K T G V V F G A S L F L L S L T V F S I V S V L A I A L A L L S V T I S F R I Y S S D F M N S V V D L E Y W R D I K R S G V V F G A S L F L L S L S V F S I V S V L A I A L A L L S V T I S L R I Y
Q9NQC3 Q6JRVO	RTN4_HU RNT4_XE	1058 909	K G V I Q A I Q K S D E G H P F R A Y L E S E V A I S E L V Q K Y S N S A L G H V N C T I K E L R R L L F L V D L V D K G I L Q A I Q K S D E G H P F R S I L E S N L A V P E D L V Q K Y C N V A L N H V N C T V K E L R R L L F L V D L V D
Q9NQC3	RTN4_HU	1118	S L K F A V L M W V F T Y V G A L F N G L L I L A L I S L F S V P V I Y E R H Q A Q I D H Y L G L A N K N V K D A M

Appendix 2-7. Sequence alignment of the reticulon homology domain from human reticulon proteins. The reticulon homology domain consists of the tandem hydrophobic regions and the intervening linker region. C1101 of RTN4 is indicated by the red arrow. The shaded amino acids indicate shared sequence identity (*black*) or similarity (*gray*).

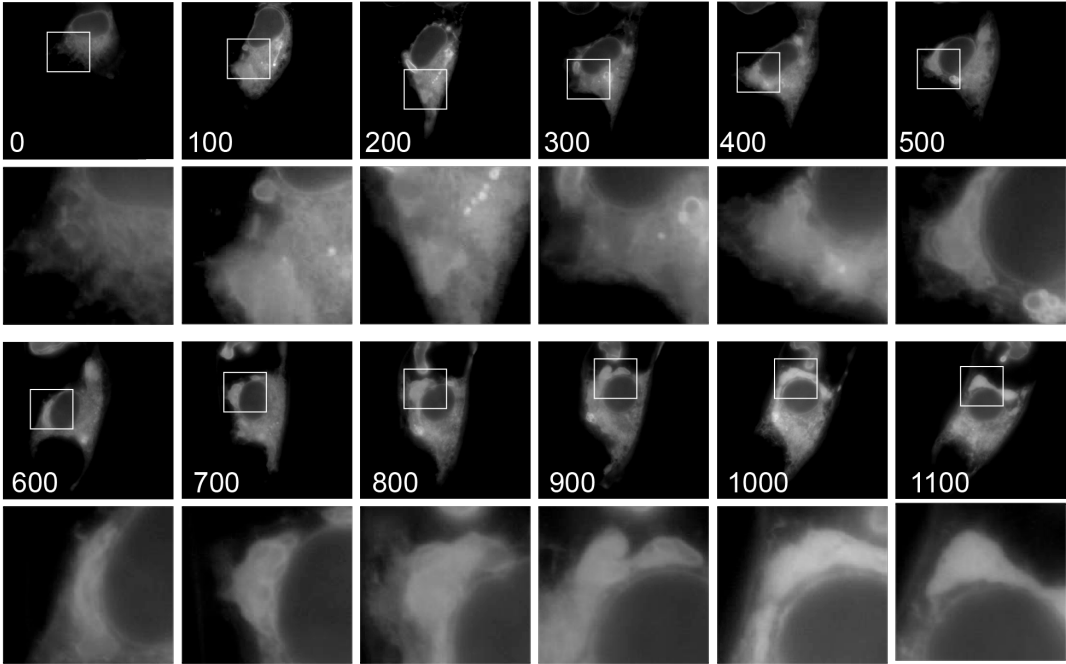
075298 RTN2a	WRDTRTSGVVF TGLMVSLLCLLHFSIVSVA AHLALLLCGTISLRVYRKVLQAVHRGDGA
075298-2 RTN2b	WRDTRTSGVVF TGLMVSLLCLLHFSIVSVA AHLALLLCGTISLRVYRKVLQAVHRGDGA
095197 RTN3a	WRDVKKTG FVFGTTLIMLLSLAAFSVISVVSYL LALLSVTISFRIYKSVIQAVQKSEEG
095197-2 RTN3b	WRDVKKTG FVFGTTLIMLLSLAAFSVISVVSYL LALLSVTISFRIYKSVIQAVQKSEEG
095197-3 RTN3c	WRDVKKTG FVFGTTLIMLLSLAAFSVISVVSYL LALLSVTISFRIYKSVIQAVQKSEEG
Q16799 RTN1a	WRDIKQTGIVFGSFL LLLFSLTQFSVVSVVAYLALALSA TISFRIYKSVIQAVQKTDDEG
Q16799-2 RTN1b	WRDIKQTGIVFGSFL LLLFSLTQFSVVSVVAYLALALSA TISFRIYKSVIQAVQKTDDEG
Q16799-3 RTN1c	WRDIKQTGIVFGSFL LLLFSLTQFSVVSVVAYLALALSA TISFRIYKSVIQAVQKTDDEG
Q9NQC3 RTN4a	WRDIKKTGVVFGASL FLLLSLTVFSTVSVTAYI ALALLSVTISFRIYKGVIQAIQKSDG
Q9NQC3-2 RTN4b	WRDIKKTGVVFGASL FLLLSLTVFSTVSVTAYI ALALLSVTISFRIYKGVIQAIQKSDG
Q9NQC3-3 RTN4c	WRDIKKTGVVFGASL FLLLSLTVFSTVSVTAYI ALALLSVTISFRIYKGVIQAIQKSDG
▼	
075298 RTN2a	NPFQAYLDVDLTLTREQTERLSHQITSRVVSAAATQLRHFFLVEDLVDSLKLALLFYILTF
075298-2 RTN2b	NPFQAYLDVDLTLTREQTERLSHQITSRVVSAAATQLRHFFLVEDLVDSLKLALLFYILTF
095197 RTN3a	HPPKAYLDVDITLSSEAFHNYMNAAMVHINRALKLIIRLFLVEDLVDSLKLAVFMWLMTY
095197-2 RTN3b	HPPKAYLDVDITLSSEAFHNYMNAAMVHINRALKLIIRLFLVEDLVDSLKLAVFMWLMTY
095197-3 RTN3c	HPPKAYLDVDITLSSEAFHNYMNAAMVHINRALKLIIRLFLVEDLVDSLKLAVFMWLMTY
Q16799 RTN1a	HPPKAYLELEITLSQEIQIKYTDCLQFYVNSTLKELRRLFLVQDLVDSLKFVLMWLLTY
Q16799-2 RTN1b	HPPKAYLELEITLSQEIQIKYTDCLQFYVNSTLKELRRLFLVQDLVDSLKFVLMWLLTY
Q16799-3 RTN1c	HPPKAYLELEITLSQEIQIKYTDCLQFYVNSTLKELRRLFLVQDLVDSLKFVLMWLLTY
Q9NQC3 RTN4a	HPPFRAYLESEVAISEELVQKYSNSALGHVNCITIKELRRLFLVDDLVDLKFVLMWVFTY
Q9NQC3-2 RTN4b	HPPFRAYLESEVAISEELVQKYSNSALGHVNCITIKELRRLFLVDDLVDLKFVLMWVFTY
Q9NQC3-3 RTN4c	HPPFRAYLESEVAISEELVQKYSNSALGHVNCITIKELRRLFLVDDLVDLKFVLMWVFTY
075298 RTN2a	VGALFNGLTLLILGVIGLFTIPLLYRQHQAQIDQYV
075298-2 RTN2b	VGALFNGLTLLILGVIGLFTIPLLYRQHQAQIDQYV
095197 RTN3a	VGAVFNGITLLILAELLIFSVPIVYEKYKTOIDHYV
095197-2 RTN3b	VGAVFNGITLLILAELLIFSVPIVYEKYKTOIDHYV
095197-3 RTN3c	VGAVFNGITLLILAELLIFSVPIVYEKYKTOIDHYV
Q16799 RTN1a	VGALFNGLTLLLMVVSMTLPVVYVKHQAQIDQYL
Q16799-2 RTN1b	VGALFNGLTLLLMVVSMTLPVVYVKHQAQIDQYL
Q16799-3 RTN1c	VGALFNGLTLLLMVVSMTLPVVYVKHQAQIDQYL
Q9NQC3 RTN4a	VGALFNGLTLLILALISLFSVPVIYERHQAQIDHYL
Q9NQC3-2 RTN4b	VGALFNGLTLLILALISLFSVPVIYERHQAQIDHYL
Q9NQC3-3 RTN4c	VGALFNGLTLLILALISLFSVPVIYERHQAQIDHYL

Appendix 2-8. ER Morphology in SW620 Colorectal Cancer Cells. SW620 cells expressing GFP-tagged Sec61b were treated with DKM 3-30 (50 μ M) for the indicated times and the ER (green) and nuclear (blue) morphology visualized by fluorescence microscopy.

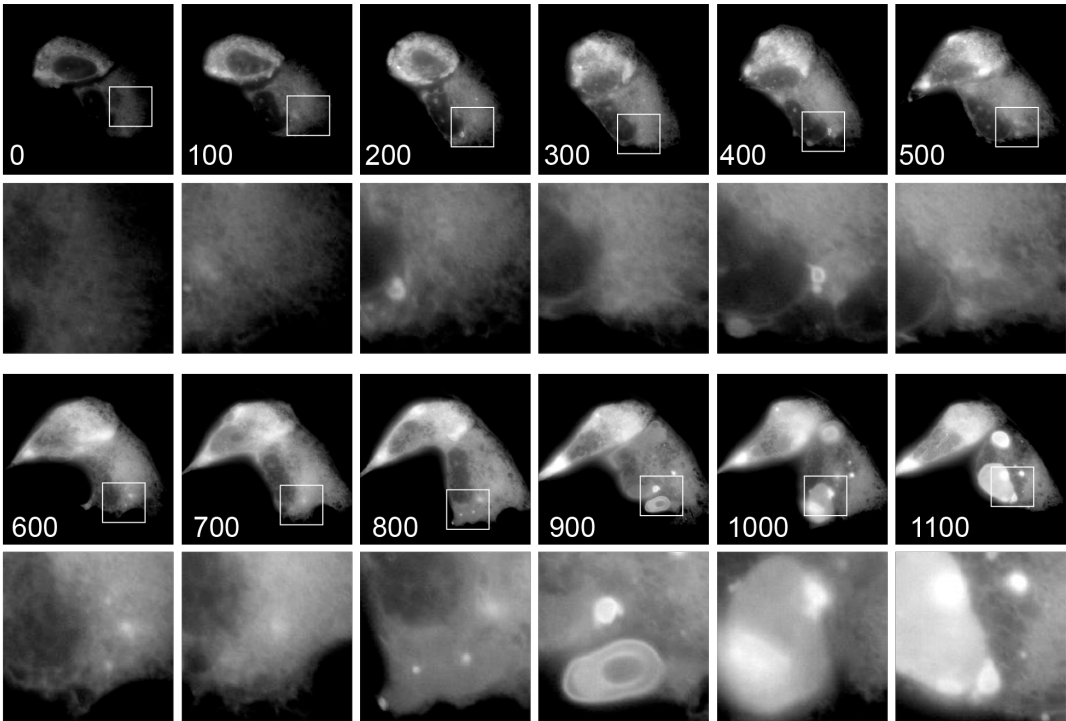


Appendix 2-9. DKM 3-30 alters ER morphology. (A,B) U2OS cells expressing GFP-tagged Sec61b were treated with DKM 3-30 (50 μ M) and ER morphology visualized by time-lapse fluorescence microscopy. Time (min) is indicated on each panel. Bottom panels indicate boxed region.

A DKM 3-30

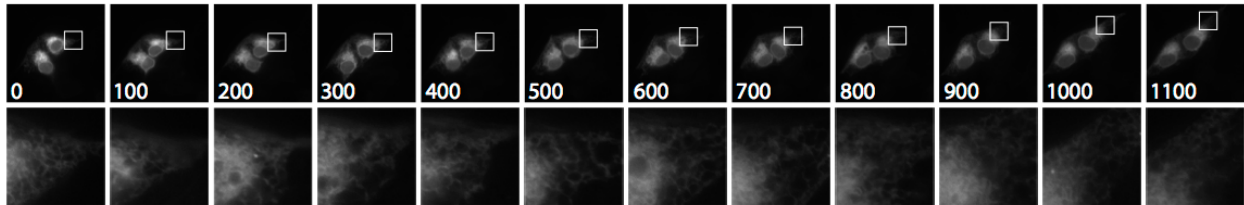


B DKM 3-30

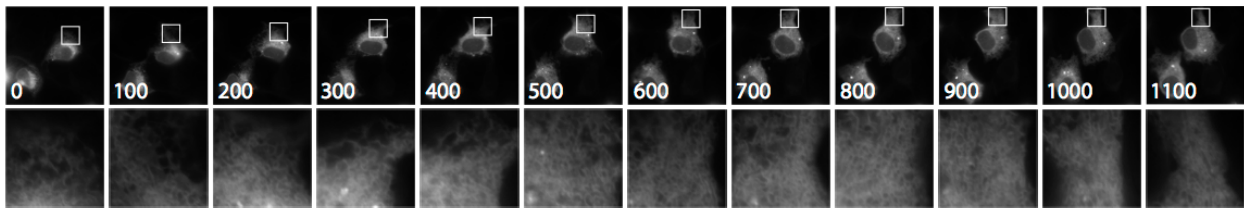


Appendix 2-10. AMR 1-125, but not YP 146, alters ER morphology. U2OS cells expressing GFP-tagged Sec61b were incubated with control, 1 μ M AMR 1-125, or 50 μ M YP 146 and the ER morphology was visualized by time-lapse fluorescence microscopy. Time (min) is indicated on each panel. Bottom panels indicate boxed region.

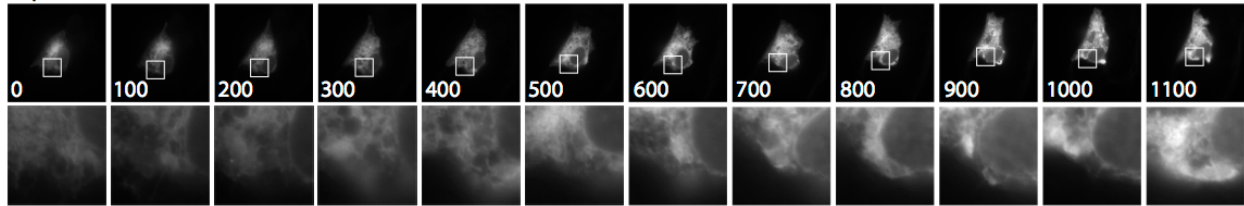
Control



50 μ M YP 1-49



1 μ M AMR 1-125



Appendix 3-1. Cysteine-Reactive Covalent Degraders Synthetic Methods

The synthetic routes for the C10 alkyl-lenalidomide linker and the ether-linked thalidomide degraders were adapted from the literature.^{46,47}

Note: All reactions were purged (x3) and conducted under N₂

(*N*-(5-(2-(2,6-dioxopiperidin-3-yl)-1-oxoisindolin-4-yl)pentyl)-2-iodoacetamide) (AMR 2-181)

To a round bottom flask was added NVS linker (73.2mg, 0.2mmol, 1eq) and the flask was purged once. Then 2mL of dry DMF was added, followed by the addition of iodoacetic anhydride (71.3mg, 0.2mmol, 1eq). After 30 minutes, diisopropylethylamine (70uL, 0.4mmol, 2 eq) was added. After two hours, the reaction was diluted with methanol and rotovapped down. A prep plate was run in 3% MeOH/DCM to isolate a crude mixture of chloroacetamide and iodoacetamide product. This crude (10.8mg, 0.027mmol, 1eq) was dissolved in 200uL acetone. Then, sodium iodide (9mg, 0.06mmol, 2eq) was added and the reaction proceed overnight. The reaction was dried down, and purified through a silica plug using 10% MeOH/DCM. (Yield 9.6mg, 71.4% yield)

¹H NMR (600 MHz, Methanol-*d*₄) δ 7.64 (dd, *J* = 6.5, 2.1 Hz, 1H), 7.49 – 7.44 (m, 2H), 5.17 (dd, *J* = 13.4, 5.2 Hz, 1H), 4.55 – 4.43 (m, 2H), 3.65 (s, 2H), 3.17 (t, *J* = 6.9 Hz, 2H), 2.91 (ddd, *J* = 17.7, 13.6, 5.4 Hz, 1H), 2.79 (ddd, *J* = 17.7, 4.6, 2.4 Hz, 1H), 2.72 (t, *J* = 7.7 Hz, 2H), 2.56 (qd, *J* = 13.3, 4.6 Hz, 1H), 2.19 (dtd, *J* = 12.8, 5.3, 2.3 Hz, 1H), 1.70 (p, *J* = 7.7 Hz, 2H), 1.56 (p, *J* = 7.0 Hz, 2H), 1.46 – 1.38 (m, 2H).

¹³C NMR (151 MHz, Methanol-*d*₄) δ 173.24, 170.82, 170.43, 169.82, 140.59, 137.57, 131.87, 131.14, 128.20, 120.63, 52.24, 48.40, 39.10, 31.32, 30.95, 29.16, 28.38, 26.00, 22.68, -3.38.

HRMS (-ESI): Calculated: 497.0811 (C₂₀H₂₄IN₃O₄) Observed: 497.0739

2-chloro-*N*-(10-(2-(2,6-dioxopiperidin-3-yl)-3-oxoisindolin-4-yl)decyl)acetamide (AMR 3-80)

To an oven-dried round bottom flask was added 3-(7-(10-aminodecyl)-1-oxoisindolin-2-yl)piperidine-2,6-dione (270.4mg, 0.678mmol, 1eq) and 2.5mL of dry DCM. The reaction vessel was cooled to 0C, then chloroacetyl chloride (65uL, 0.812mmol, 1.2eq) was added followed by triethylamine (189uL, 1.35mmol, 2eq). The reaction was allowed to proceed for 20min at 0C before bringing to room temperature. After 2 hours, the reaction was rotovapped down and purified using flash column chromatography and prep TLC. Yield 18.1mg, 5.6%.

¹H NMR (600 MHz, DMSO-*d*₆) δ 10.98 (s, 1H), 8.15 (s, 1H), 7.54 (t, *J* = 4.3 Hz, 1H), 7.44 (d, *J* = 4.3 Hz, 2H), 5.12 (dd, *J* = 13.3, 5.1 Hz, 1H), 4.36 (dd, *J* = 93.2, 17.1 Hz, 2H), 4.00 (s, 2H), 3.04 (q, *J* = 6.7 Hz, 2H), 2.91 (ddd, *J* = 18.2, 13.6, 5.4 Hz, 1H), 2.65 –

2.56 (m, 3H), 2.42 (qd, $J = 13.3, 4.4$ Hz, 1H), 2.02 – 1.97 (m, 0H), 1.58 (s, 2H), 1.38 (d, $J = 7.7$ Hz, 2H), 1.33 – 1.18 (m, 13H).

^{13}C NMR (151 MHz, DMSO- d_6) δ 173.29, 171.46, 166.09, 140.91, 137.96, 131.96, 131.87, 128.67, 121.00, 51.98, 46.66, 43.11, 31.66, 29.72, 29.36, 29.24 (d, $J = 2.4$ Hz), 29.08, 26.70, 22.93.

HRMS (+ESI): Calculated: 475.2238 (C₂₅H₃₄ClN₃O₄) Observed: 498.2130 Na⁺ adduct

***N*-(10-(2-(2,6-dioxopiperidin-3-yl)-3-oxoisindolin-4-yl)decyl)-2-iodoacetamide (AMR 3-89)**

To a scintillation vial was added AMR 3-80 (26mg, 0.05 mmol, 1eq) and ~1mL acetone. Then, sodium iodide (18mg, mmol, eq) was added and the reaction was left overnight. Another 24mg of sodium iodide was added (mmol and eq), and allowed to reaction for another 2 hours. The reaction was then rotovapped down, and purified by prep TLC in 6% MeOH/DCM. Yield (20mg, 64%)

^1H NMR (600 MHz, DMSO- d_6) δ 10.99 (s, 1H), 8.18 (d, $J = 6.1$ Hz, 1H), 7.56 (p, $J = 4.0$ Hz, 1H), 7.45 (d, $J = 4.4$ Hz, 2H), 5.13 (dd, $J = 13.3, 5.1$ Hz, 1H), 4.37 (dd, $J = 93.1, 17.1$ Hz, 2H), 3.60 (s, 2H), 3.01 (q, $J = 6.6$ Hz, 2H), 2.97 – 2.90 (m, 1H), 2.65 – 2.58 (m, 3H), 2.42 (td, $J = 13.2, 4.5$ Hz, 1H), 2.04 – 1.98 (m, 1H), 1.59 (d, $J = 8.8$ Hz, 2H), 1.37 (t, $J = 6.7$ Hz, 1H), 1.27 (d, $J = 38.8$ Hz, 14H).

^{13}C NMR (151 MHz, DMSO- d_6) δ 173.29, 171.46, 168.78, 167.81, 140.91, 137.97, 131.96, 131.87, 128.67, 121.00, 68.92, 56.27, 51.99, 46.67, 36.20, 32.52, 31.66, 31.21, 30.03, 29.73, 29.36, 29.23, 29.16, 29.08, 26.64, 22.93, 1.39.

HRMS (+ESI): Calculated: 567.1594 (C₂₅H₃₄IN₃O₄) Observed: 590.1486 (sodium adduct)

2-chloro-*N*-(3-(2-((2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-4-yl)oxy)acetamido)propyl)acetamide (AMR 3-164)

To an oven dried round bottom flask was added *N*-(3-aminopropyl)-2-((2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-4-yl)oxy)acetamide (79.6mg, 0.16mmol, 1eq) along with 2mL dry DCM. The reaction was cooled to 0C, and chloroacetyl chloride (15uL, 0.19mmol, 1.2eq) and triethylamine (56uL, 0.4mmol, 2.5eq) were added. After 20 minutes, the reaction was warmed to RT. After 4 hours, 1mL dry DCM and 1mL of dry THF were added to improve solubility. After 5 hours, more chloroacetyl chloride (15uL, 0.19mmol, 1.2eq) was added. After a total of 7.5 hours, the reaction was rotovapped down and put on high vac overnight. The crude was purified by flash chromatography (1% MeOH/DCM 30sec, 1-10% MeOH over 4:24min, 10% hold for 1 min). Yield (51.2mg, 68.8%)

^1H NMR (600 MHz, DMSO- d_6) δ 11.11 (s, 1H), 8.20 (t, $J = 5.7$ Hz, 1H), 7.99 (t, $J = 5.8$ Hz, 1H), 7.82 – 7.76 (m, 1H), 7.48 (d, $J = 7.3$ Hz, 1H), 7.38 (d, $J = 8.5$ Hz, 1H), 5.11 (dd, $J = 12.9, 5.4$ Hz, 1H), 4.77 (s, 2H), 4.03 (s, 2H), 3.14 (q, $J = 6.5$ Hz, 2H), 3.09 (q, $J = 6.6$

Hz, 2H), 2.92 – 2.84 (m, 1H), 2.61 – 2.56 (m, 1H), 2.56 – 2.50 (m, 1H), 2.05 – 1.98 (m, 1H), 1.58 (p, $J = 7.0$ Hz, 2H).

^{13}C NMR (151 MHz, DMSO- d_6) δ 173.18, 170.28, 167.28, 167.15, 166.30, 165.87, 155.51, 137.37, 133.48, 120.86, 117.27, 116.49, 68.12, 49.24, 43.08, 37.06, 36.55, 31.37, 29.35, 22.42.

HRMS (+ESI): Calculated: 464.1099 ($\text{C}_{20}\text{H}_{21}\text{ClN}_4\text{O}_7$) Observed: 465.1172

2-((2-(2,6-dioxopiperidin-3-yl)-1,3-dioxoisindolin-4-yl)oxy)-*N*-(3-(2-iodoacetamido)propyl)acetamide (AMR 3-170)

To an oven dried round bottom flask was added AMR 3-164 (15mg, 0.032mmol, 1eq) and sodium iodide (24mg, 0.16mmol, 5eq), followed by 400uL of acetone. After reacting overnight, the reaction was only ~50% complete by NMR so the crude was rotovapped down, dissolved in 3mL THF and another 50.7mg of sodium iodide was added and the reaction proceeded overnight. The reaction was then rotovapped down and purified by flash column chromatography MeOH/DCM (1% hold 1CV, 1-10% 10CV, 10% hold 2CV). Yield (9.9mg, 56% yield overall).

^1H NMR (600 MHz, DMSO- d_6) δ 11.12 (s, 1H), 8.23 (d, $J = 6.0$ Hz, 1H), 8.00 (t, $J = 5.7$ Hz, 1H), 7.82 (dd, $J = 8.5, 7.3$ Hz, 1H), 7.50 (d, $J = 7.3$ Hz, 1H), 7.39 (d, $J = 8.5$ Hz, 1H), 5.12 (dd, $J = 13.0, 5.5$ Hz, 1H), 4.78 (s, 2H), 3.61 (s, 2H), 3.19 – 3.13 (m, 2H), 3.05 (q, $J = 6.7$ Hz, 2H), 2.89 (ddd, $J = 17.2, 14.0, 5.5$ Hz, 1H), 2.60 – 2.53 (m, 1H), 2.06 – 2.01 (m, 1H), 1.57 (p, $J = 7.0$ Hz, 2H).

^{13}C NMR (151 MHz, DMSO- d_6) δ 173.18, 170.28, 168.05, 167.23, 167.15, 165.89, 155.52, 137.37, 133.48, 120.85, 117.26, 116.48, 68.10, 49.24, 37.21, 36.59, 31.37, 29.29, 22.42, 1.25.

HRMS (+ESI): Calculated 556.0455 ($\text{C}_{20}\text{H}_{21}\text{IN}_4\text{O}_7$) Observed: 579.0334 (Na⁺ adduct)

2-chloro-*N*-(2-(2,6-dioxopiperidin-3-yl)-1-oxoisindolin-4-yl)acetamide (CA-Lenalidomide)

Modified procedure based on reference 1. To a solution of lenalidomide (1.00 g, 3.86 mmol) in dry THF (50 mL) was added chloroacetyl chloride (338 uL, 4.25 mmol). The mixture was heated to reflux for 45 minutes. To the reaction mixture was added extra chloroacetyl chloride. After heating the reaction mixture for another 30 minutes, the solvent was evaporated in vacuo. The resultant crude was suspended in diethyl ether and filtered. The product was a white solid obtained in 78.2% yield (1.01 g).⁴⁸

^1H NMR (400 MHz, DMSO- d_6): δ 11.04 (s, 1H), 10.21 (s, 1H), 7.82 (dd, $J = 7.6, 1.4$ Hz, 1H), 7.60 – 7.50 (m, 2H), 5.16 (dd, $J = 13.3, 5.1$ Hz, 1H), 4.45-4.30 (m, 4H), 2.92 (ddd, $J = 17.3, 13.6, 5.4$ Hz, 1H), 2.65 – 2.57 (m, 1H), 2.35 (qd, $J = 13.3, 4.4$ Hz, 1H), 2.03 (dtd, $J = 12.6, 5.1, 2.2$ Hz, 1H).

¹³C NMR (400 MHz, DMSO-*d*₆): δ 172.9, 171.1, 167.7, 165.0, 134.1, 133.0, 132.8, 128.9, 125.5, 119.8, 51.6, 46.3, 43.1, 31.2, 22.7.

HRMS (-ESI): Calculated: 334.0600 (C₁₅H₁₃O₄N₃Cl). Observed: 334.0596.

(2*S*,4*R*)-1-((*S*)-2-(12-acrylamidododecanamido)-3,3-dimethylbutanoyl)-4-hydroxy-*N*-(4-(4-methylthiazol-5-yl)benzyl)pyrrolidine-2-carboxamide (YP 2-23)

To a solution of Boc-11-Aun-OH (**1**, 47 mg, 0.15 mmol) in dry DCM (3.5 mL) were added VHL ligand (*Novartis citation*, 53 mg, 0.12 mmol), HATU (71 mg, 0.19 mmol), and DIPEA (86 μL, 0.50 mmol), respectively. Additional DIPEA was then added (65 μL, 0.37 mmol) to ensure that the reaction mixture had a pH > 9. The reaction mixture was stirred for 4 hours at room temperature. After diluting the reaction mixture with water, it was extracted with ethyl acetate (x3). The combined organics were evaporated in vacuo and the resultant crude was purified via silica gel chromatography (5% MeOH in DCM) to give the Boc-protected linker as a white solid in 62% yield (**2**, 56 mg). To the Boc-protected linker (**2**, 56 mg) was added a 1:1 solution of TFA in DCM (2 mL). The reaction mixture was stirred for 45 minutes at room temperature and then basified with an aqueous solution of 3M NaOH (3 mL). The resultant solution was extracted with DCM (x3) and concentrated in vacuo to give a white solid (**3**).⁴⁹

The amine (**3**) was dissolved in dry ethyl acetate (0.6 mL) and the resultant solution was cooled to -10 °C on an ice bath (1:1 acetone to ice). To the reaction mixture was added dropwise a solution of cold acryloyl chloride (5 μL, 0.04 mmol) in dry ethyl acetate (0.4 mL) over a period of 30 minutes. The reaction mixture was allowed to stir at -10 °C for another 30 minutes and then concentrated in vacuo. The product was obtained after silica gel chromatography (5% MeOH in DCM) in 4.7% overall yield (3 steps) as a light yellow solid (4.8 mg).⁵⁰

¹H NMR (600 MHz, Methanol-*d*₄): δ 8.88 (s, 1H), 7.48 – 7.39 (m, 4H), 6.25 – 6.16 (m, 2H), 5.64 – 5.61 (m, 1H), 4.63 (s, 1H), 4.59 – 4.51 (m, 2H), 4.49 (s, 1H), 4.35 (d, *J* = 15.4 Hz, 1H), 3.90 (d, *J* = 11.0 Hz, 1H), 3.80 (dd, *J* = 11.1, 4.0 Hz, 1H), 3.23 (t, *J* = 7.2 Hz, 2H), 2.47 (s, 3H), 2.32-2.19 (m, 3H), 2.08 (ddd, *J* = 13.3, 9.0, 4.5 Hz, 1H), 1.65-1.55 (m, 2H), 1.54-1.49 (m, 2H), 1.30 (s, 14H), 1.03 (s, 9H).

HRMS (-ESI): Calculated: 680.3851 (C₃₇H₅₄O₅N₅S). Observed: 680.3850.

Appendix 3-2. IsoTOP-ABPP Data for Cysteine-Reactive Covalent Degradation Target Identification. isoTOP-ABPP analysis of cysteine-reactive covalent degraders in 231MFP cells. 231MFP cells were treated with DMSO or degrader (20 μ M) and then harvested. The control (DMSO) or treated (degrader) proteomes were then chased with Iayne and a biotin-azide handle, bearing a TEV protease recognition site and an isotopically light (for DMSO- treated) and heavy (for degrader-treated) tag, was appended on using copper click chemistry. DMSO and degrader-treated proteomes were then mixed in a 1:1 ratio and subsequently avidin-enriched, tryptically digested, and then probe-modified tryptic peptides were released by TEV protease and analyzed using quantitative proteomic approaches. Peptide ratios shown are average ratios for those probe-modified peptides that were identified in at least 2 out of 3 biological replicates. A light to heavy ratio of 1 indicates that the probe-labeled cysteine-bearing peptide was not bound by the degrader, whereas a ratio >4 indicates bound sites. If a top hit showing >4 ratio showed more than 1 ratio greater than 4, the average of the top 2 ratios was kept. If a top hit showing >4 ratio had only one out of 3 or 1 out of 2 ratios that showed >4 , the ratio was replaced with the lowest of the ratios.

AMR 2-181

Peptide	Modified Residue	Avg. area ratio	Uniprot ID	see n in
FSDCWNTEGSYDC*VCSPGYEPVSGAK	C91	675.6033	P48960	3
LLQDYPITDVC*QILQK	C387	666.6818	Q9NVG8	3
LEEATTIC*LLP	C839 C868 C519 C878 C845 C843	519.9277	P51816	3
MNTLLANGEVPLFEGDEYATLMTQC*K	C3033	341.6382	Q14204	3
GLGQEC*VLSSPAVLALQTSLVFSR	C42	278.4867	P78527	3
VGILDVDLC*GPSIPR	C54	266.0100	Q9Y5Y2	3
SLLINAVEASC*IR	C262 C289	227.5980	P32322	3
TPQPGSPSPNTPC*LPEAAVSQPGSAVASDWR	C644	205.7665	Q9Y4R8	3
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C173	205.0917	M0R383	3
NTMVNLGLQNAC*DEAIYQLGLDLEELLEEIEEDAGLNGGLGR	C109	179.5094	P11216	3
YTVQDESHSEWVSC*VR	C153	177.2253	P63244	3
LTIIVSDPSHC*NVLR	C87 C87	147.6110	P78346	3
VQTDAFVSNELDDPDDLQC*K	C462 C485 C464 C486	147.1147	A0A087WTA5	3
VQVSDPESTVAVAFPTIPHC*SMATLIGLSIK	C93	137.2848	Q9Y3D0	3
QAVLGAGLPISTPC*TTINK	C119	121.4869	P24752	3
LYYFQYPC*YQEGLR	C130	119.5317	Q9NRW3	3
VLDALFPCVQGGTTAIPGAFGC*K	C254 C221	114.1472	P38606	3
YIELFLNSC*PK	C476	101.7511	Q12849	3
YAIC*SALAASALPALVMSK	C125	86.79711	P36578	3

AC*LIFFFEIDAIGGAR	C270 C133	80.67790 85	P35998	3
VAPELMGTPDGTGC*YPPPPVPR	C1889	80.49024 62	P27708	3
VVSGMVNC*NDDQGVLLGR	C230	69.92373 47	P21980	3
NMMAAC*DPR	C285 C266 C303 C650 C269	62.85794 88	Q5JP53	3
EGTDSSQGIPQLVSNISAC*QVIAEAVR	C29	54.22446 72	Q99832	3
LTPTYGDLNHLVSATMSGVTTC*LR	C239 C221	53.48057 32	Q5JP53	3
VLC*ELADLQDKEVGDGTTSVVIAAELLK	C76	35.54771 19	P17987	3
SQGC*SEQVLTVLK	C3293	30.15210 4	P78527	3
YAYLNVVGMVGSIDNDFC*GDTMTIGTDSALHR	C179	27.89814 98	Q01813	3
IC*DQWDNLGALTQK	C480	26.71956 33	P12814	3
LNFLYQAAHC*VLAQDPENQALAR	C23	25.44262 33	A0A140T9R 9	3
GDPQVYEELFSYSC*PK	C417 C460 C369	22.48653 33	Q9Y262	3
GDLNDC*FIPCTPK	C143 C199	22.17801 75	P11586	3
AGSDGESIGNC*PFSQR	C35 C35	19.37560 33	Q9Y696	3
ELLNPVVEFVSHPSTTC*R	C2469	18.68334	P78527	3
PMC*VESFSDYPPLGR	C411 C390	17.71629 59	P68104	3
LC*YVALDFEQEMATAASSSSLEK	C217 C917	16.41627 08	P60709	3
SC*SSSCAVHDLIFWR	C42	15.82792 83	O95197	3
IWSVPNASC*VQVVR	C298	14.80284 17	Q9UMS4	3
RPYEDQGLGETTPLTIIC*QPMQPLR	C367	14.09406 63	Q8TF42	3
QGEYGLASIC*NGGGGASAMLIQK	C413	12.82762 67	P24752	3
SGALLAC*GIVNSGVR	C448	12.75528 25	Q13200	3
VLSSSGSEAAVPSVC*FLVPPPNQEAQEAQVTR	C878 C992 C882 C859 C841 C823 C855 C833	11.71408 25	Q15149	3
LFAPQQILQC*SPAN	C230 C263	11.48944 8	P04183	3
YLC*DFTYYTSLYQSHGR	C72 C149	10.95862 75	Q9NXJ5	3
VMTIPYQMPASSPVIC*AGGQDR	C194	10.89142 12	Q15365	3
MGVEAVIALLEATPDTPAC*VVSLNGN	C343	10.74564 73	Q01813	3
AEPQTC*TSLAWSADGQTLFAGYTDNLVR	C286	10.56127 65	P63244	3
HPSAVTAC*NLLENLVTDNSR	C325	10.54074	Q9Y678	3
IQFVGAC*NPPTDPGR	C2712	10.37147 67	Q14204	3
IAIWTTEC*ENR	C190 C170 C198 C201	10.21923 33	P06730	3
NGPVWLNTTQPLC*K	C183 C159 C215 C159	10.19661 75	O95983	3
AIQTVSCLLQGPC*DAGNR	C411 C426	10.18009 33	Q9H3U1	3
ELSFSGIPC*EGGLR	C36 ;C36 ;X ;	9.464425	Q9NVG8	3

TFC*GTPEYLAPEVLEDNDYGR	C311 C310 C248 C307 C307 ;C310 C248 C311 C249 C307 C307 ;C311 C249 C310 C248 C307 C307 ;	9.456164 44	P31751	3
DLNC*VPEIADTLGAVAK	C22 ;C22 ;C22 ;	9.455591 43	O14744	3
VC*NQIEFLNTEFK	C39 ;C39 ;C39 ;	9.327613 33	O14879	3
LPLMEC*VQMTQDVQK	C360 ;M358 C360 ;X ;	8.982353 91	Q01813	3
LGTDKC*DNSSMSLQMGYTGANQSGQVFGLGR	C261 C229 C240 ;C261 C229 C240 ;X ;	8.76003	B4DUT8	3
IGSSLYALGTQDSTDIC*K	C264 C276 ;C264 C276 C148 ;C264 C276 C148 ;	8.576885	Q9UNH7	3
GEAYNLFEHNC*NTFSNEVAQFLTGR	C108 ;X ;X ;	8.543422 86	Q6ICB0	3
SVLC*STPTINIPASPFMQK	C22	8.504507 5	Q96KB5	3
DAVFDGSSC*ISPTIVQQFGYQR	C27 C27 ;C27 C27 ;C27 C27 ;	8.446966 67	P04049	3
FSAIQC*AAAVPR	C137 C98 C98 C98 C98 C31 ;C137 C98 C98 C31 ;C137 C98 C98 C98 C98 C31 ;	8.334377 5	Q15054	3
IVGYFVSGC*DPSIMGIGVPAISGALK	C284	8.276122 5	A0A0B4J2A 4	3
SFC*SMAGPNLIAIGSSESAQK	C78	8.094207 5	B4DYP1	3
IDATQVEVNPFGETPEGQVVC*FDAK	C255 C255 ;C255 C255 ;C255 C255 ;	8.091452	Q96I99	3
NSFYMGTC*QDEPEQLDDWNR	C1907 C771 C1893 C1891 ;C1907 C771 C1893 C1891 ;X ;	7.976147 5	Q14980	3
LGC*QIVLTPELEGAFTLPK	C151 C16 ;C151 C16 ;C151 C16 ;	7.867516 67	Q6P4F2	3
NSPLPNC*TYATR	C275 C340 C350 ;C275 C340 C350 ;C275 C340 C350 ;	7.863644	Q5JTD0	3
IC*EPGYSPTYK	C211 ;C211 ;C211 ;	7.853494	P07858	3
SWC*PDCVQAEPVVR	C43 ;C43 ;C43 C43 ;	7.749319 38	Q9BRA2	3
TIGGGDDSFTTFFC*ETGAGK	C54 C54 C77 C77 ;C54 C54 C77 C77 ;C54 ;	7.527894 62	P68366	3
TSAPITC*ELLNK	C1999 ;C1999 ;C1999 ;	7.502224	Q14204	3
C*PFYAAEQDK	C236 C265 C319 ;C236 C265 C319 ;C236 C265 C319 ;	7.371645	P30519	3
SGIQPLC*PER	C341 ;C341 C341 ;C341 ;	7.194682 5	P42166	3
AYHEQLSVAEITNAC*FEPANQMVK	C295	7.190815 06	P68363	3
C*GFSELYSWQR	C91 ;C91 ;C91 ;	7.065595	Q9NSE4	3
MAGIFDVNTC*YGSPQSPQLIR	C428 C468 C468 C467 C353 ;C428 C468 C468 C467 C353 ;X ;	6.996471 67	Q9BTX1	3
TGIEQGS DAGYLC*ESQK	C322 ;C322 ;C322 ;	6.89013	P40939	3
C*PQVEEAIVQSGQK	C158 C146 ;C158 C146 ;C158 C146 ;	6.682102 86	Q9BVP2	3
EQVPSLGSNVAC*GLAYTDYHK	C568 ;C568 ;C568 ;	6.552602 5	A1L0T0	3

VC*VPSSASALGTASK	C508 C508 ;C508 C508 C508 C508 ;C508 C508 ;	6.524502 86	A0A0U1RQ X8	3
GLSNLFLSC*PIPK	C326 C312 ;C326 C312 ;C326 C312 C125 ;	6.46636	Q9Y570	3
AYHEQLTVAEITNAC*FEPANQMVK	;C295	6.434068 36		3
GLAAALLLC*QNK	C645 ;C645 C645 ;C645 ;	6.398855	O43290	3
TGLC*YLPEELALQK	C35 C46 ;X ;X ;	6.276653 33	Q13045	3
SQQDTFLPHVEC*GTITLIGATTENPSFQVNAALLSR	C127 C347 ;C127 C347 ;C127 C127 ;	6.175815	Q96S55	3
AENGLLMTPC*YTANFVAPEVLKR	C579 M556 C483 ;M556 C564 M581 C579 M576 C579 ; C579 ;M576 C584 M572 C483 M576 C559 M561 C483 M556 C575 M480	6.072036 36	Q15418	3
SC*SPLAFSAFGDLTIK	C231 C191 C92 ;C231 C191 ;C231 C191 ;	6.059168 75	Q96EY5	3
AGQC*VIGLQMGTK	C185	6.046320 63	B4DUT8	3
C*LMDQATDPNIGR	C4106 C4106 ;C4106 ;C4106 ;	6.007065	P78527	3
LC*DFGISGQLVDSIAK	C246 C257 ;C246 C257 ;X ;	5.962786	P45985	3
LLGPTVMLGGC*EFSR	C667 ;C667 ;C667 ;	5.832393 33	Q8N9T8	3
VFSANSTAAC*TELAKE	C19 C48 ;C19 C48 ;C19 C48 ;	5.67388	Q14558	3
LLASC*SADMTIK	C168	5.672797 5	P43034	3
FNPEAGANC*LVK	C449 ;C449 ;C449 ;	5.633177 5	O14777	3
LALFNPDVC*WDR	C44 ;C44 ;C44 C44 ;	5.550516	O00483	3
SYLSSSAPSSSPAGLDGSSQGGAVPGLGPKPGC*TDLGTGPK	C374 C374 ;C374 C374 ;C374 C374 ;	5.46663	C9JRJ5	3
AIHTAPVATMAFDPTSTLLATGGC*DGAVR	C129 ;M115 C129 ;	5.440425 45	Q12788	3
KGVSASAVPFTPSSPLLSC*SQEGSR	C576 C585 C576 C39 ;C576 C585 C576 C39 ;C576 C585 C576 C39 ;	5.439766 67	Q9Y2X7	3
SGLTPNDIDVIELHDC*FSTNELLTYEALGLCPEGQGATLVDRGDN TYGGK	C307 C307 ;C307 C307 ;X ;	5.410664 38	E9PLD1	3
VGVGTC*GIADKPMQYQDTSK	C214 C214 ;C214 ;X ;	5.383156 09	O75940	3
KAC*GDSTLTQITAGLDPVGR	C25 ;X ;X ;	5.38301	P62879	3
EMFPYEASTPTGISASC*R	C363 C323 C254 ;C363 C323 ;X ;	5.35862	P42167	3
LHDAIVEVVC*LLR	C470 C483 C483 C483 C470 C470 C470 C470 ;C483 ;C470 C483 C483 C483 C470 C470 C470 C470 C267 ;	5.344526 67	O00429	3
ETTQNALQTPC*YTPYYVAPEVLGPEK	C203 C203 ;C203 C203 ;C203 C203 ;	5.280383 33	C9J8E1	3
VELC*SFSGYK	C6 C6 C6 C6 C6 C6 ;C6 C6 C6 ;C6 C6 C6 C6 C6 C6 ;	5.238464 29	C9JXB8	3
LANLAATIC*SWEDDVNHSFAK	C210 C210 ;C210 C210 ;C210 C210 ;	5.234224 29	Q9NQW6	3

SDVC*TPGGTTIYGLHALEQGGLR	C235 C215 C247 ;C235 C247 ;C235 C247 ;	5.219161 43	Q53H96	3
NALANPLYC*PDYR	C192 C192 ;C192 C192 C192 ;C192 C192 ;	5.199462 5	P22695	3
YNSDVIIYVGC*GER	C277 C277 ;C277 C244 C277 C244 ;C277 C244 C277 C244 ;	5.139857 5	P38606	3
VCLLGC*GISTGYGAAVNTAK	C174 ;C174 ;C174 ;	5.102782 86	P11766	3
AFTKPEEAC*SFILSADFPALVVK	C134 ;C134 C134 ;C134 C134 ;	5.073641 25	P22102	3
VDDEILGFISEATPLGGIQAASTESC*NQQLDLALCR	C561 C561 ;C561 C561 C561 ;C561 C561 ;	5.051415 22	P42166	3
TNHIGHTGYLNTVTVSPDGLC*ASGGK	C207 ;C207 ;C207 ;	5.014275 56	P63244	3
TC*LSQLLDIMK	X ;X ;C244	4.99295		2
LAGANPAVITC*DELLLGHEK	C4061 ;C4061 ;C4061 ;	4.989295	P78527	3
DSGAASEQATAAPNPC*SSSSR	X ;C696 C671 ;X ;	4.93818		2
TAGPQSQVLC*GVVMDR	X ;C525 C525 C556 C525 C525 C556 ;C525 C525 C556 C525 C525 C556 ;	4.937795		2
VC*IESEHSMDTLLATLKK	C41 ;C41 ;X ;	4.93237	O00244	2
GLSNLGNLC*FFNAVMQNLSQTPVLR	C204	4.920232 86	Q9Y5T5	3
TQEFLSAC*K	X ;C68 C14 ;C68 C57 C68 C68 C68 C14 C68 C14 ;	4.89615		2
NESC*SENYTTDFIYQLYSEEGK	C641 C641 C59 C59 ;C641 C641 ;C641 ;	4.862521 21	Q01813	3
AVC*MLSNTTAAIEAWAR	C376	4.846043 94	P68363	3
RLDEC*EEAFQGTK	C92 C92 ;C103 C92 C31 C36 C92 ;C103 C92 C31 C36 C92 ;	4.845640 77	P61289	3
LGEWVGLC*K	X ;C92 ;C92 ;	4.840686		2
TSSVSNPQDSVSGSPC*SR	C108 ;C108 C108 ;C108 C106 C108 ;	4.833138 75	P49023	3
LC*YVALDFEQEMAMAASSSSLEK	C917	4.817147 5	P0CG38	3
KGGPGVALSVGTLPLDSGAGSESGTATPSALITTNMVAEAIK*PEGIAR	C755 C748 C707 ;X ;X ;	4.80146	P08047	3
VAGINAC*GR	C1803 C1872 C1917 C1916 ;C1803 C1872 C1917 C1916 ;X ;	4.791345	P51610	2
EEC*PVFTPPGGETLDQVK	C55 C114 ;C55 C114 ;C55 C114 ;	4.772317 5	A0A0U1RQ D1	3
LSC*QPMLSLDDFQLQPPVTFR	C105	4.765247 14	O75607	3
FSNQETC*VEIGESVR	X ;C41 ;X ;	4.763356 67		2
C*SILAAANPAYGR	C306 C482 ;C306 C482 ;C306 C482 ;	4.761394	P33993	3
SSSSSSASAAAAAASSSASC*SR	C100 ;C100 ;C100 ;	4.757112 5	Q07065	3
APPC*EYKDWLTK	C3837 ;C3837 C3837 ;C3837 ;	4.745383 33	P78527	3
LESLSAESHPPGNC*GEVNGVIAGVAPSVEAFDK	C32 ;C32 ;X ;	4.72364	P40123	3

KSQTGILLGVC*SK	X ;C798 C798 C798 C798 C798 C798 C798 C798 ;C798 C798 C798 C798 ;	4.71979		2
LGYAGNTEPQFIIPSC*IAIK	C34 ;X ;X ;	4.6834	P61158	3
IGAAIQEELGYNC*QTGGVIAEILR	C112 ;C112 C112 ;C112 C112 ;	4.673223 75	O00567	3
SLLC*GEDEAADENPESQEMLEEQLV	X ;C941	4.669917 5		2
C*DLSPWAVSR	X ;C127 ;C127 ;	4.669103 33		2
VC*DEPHLLVK	C255 ;C255 C221 ;X ;	4.668606 67	P35250	2
TPGAATASASGAAEDGACGC*LPNPGTFEECHR	C76 ;X ;C76 ;	4.666426 25	O96008	3
TASLELGEDDDEQEDDDIEYFC*QAVGEAPSEDLFPEAK	C391 C391 C391 C391 C391 ;C338 C391 C391 C391 C391 C391 ;X ;	4.66507	Q9NQ55	3
DLIMDNC*EELIPEYLNIFIR	C178 ;X ; C178 ;M175	4.654456	Q58FG1	3
EQPQLTSTC*HIAISNSENLLGK	C772 C773 ;C772 C773 ;C772 C773 ;	4.625356 67	A0A087WV 66	3
QALMRCC*LVK	C46 M43 C46 ;X ;X ;	4.61659	Q9Y2W7	2
LPGETLITDKEVIYIC*PFNGPIK	C53 C53 ;C53 C53 ;C53 C53 ;	4.61401	Q13496	3
VAAASGHC*GAFSGSDSSR	C919 C947 ;C919 C947 ;C919 C947 ;	4.610748 18	Q9NZB2	3
GYWAGLDASAQTTSHELTIPNDLIGC*IIGR	C302 C298 ;X ;C298 C302 ;	4.608333 33	Q15366	2
SASASPLTPC*SVTR	C373 C341 ;C373 C341 ;X ;	4.603025	Q3KQU3	3
HLFQPVINQVDFYQPTCIVLQCGADSLGC*DR	X ;C263 C264 ;C188 C263 C264 ;	4.602645		2
GFNKETAAAC*VEK	X ;C225 C220 ;X ;	4.5939		2
GLQGVGPGC*TDETLLSAIASALHTSTMPITGQLSAAVEK	C140 C116 C172 C116 ;C140 C116 C172 C116 ;X ;	4.592523 33	O95983	3
AVAWC*PWQSNVLATGGGTSR	C364 ;X ;X ;	4.55342	Q12834	3
IVLAGC*PEVSGPTLLAK	C39 ;C39 ;C39 ;	4.525062 5	Q96EM0	3
SWMEGLTLQDYSEHC*K	C238 ; C238 ;M226	4.52365	O00487	3
VAC*AEEWQESR	C87 C87 ;C87 ;C87 ;	4.523185 71	O75663	3
RLIPDGC*GVK	C195 C195 ;C195 ;X ;	4.521735	X1WI28	2
SIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C347 C347 C347 ; C347 C347 C347 C347 ;C347 C347 C347 C347 C347 C347 C347 C347 ;	4.516352	P68363	3
LALDCSGQQVAVDLFLLSGQYSDLASLGC*ISR	C704 C704 ;C704 C704 C704 ;C704 C704 C704 ;	4.507722 73	O95486	3
YDSYESC*DSR	C147 C128 C94 C117 C66 ;C94 C128 ;X ;	4.502943 33	M0R010	2
SDDPFIQQVALLTSLNNANYSC*NQETIR	C419 ;C419 ;C419 ;	4.49286	Q7L311	3
LLVTSGLPGC*YLQVWQVAEDSDVIK	C106 C106 ;C106 C106 ;X ;	4.48153	H0YMT3	2
SSVNC*PFSSQDMK	C1029 ;C1029 ;C1029 ;	4.472531 25	Q08211	3

ENPDLAC*LQSIIFDEERSPEEQAK	C63 ;C63 ;X ;	4.469396 67	O95801	2
LLNLVYDVTPPELVDLVITELGMIPC*SSVPVVL	C508 M527 C509 M503 C506 M526 C530 ; C508 ;M506 C530 M506 C530 ;M506 C529 M505	4.463221 76	A0A087WT A5	3
EMNPALGIDC*LHK	C493 C455 C472 ;C493 C455 C472 ;X ;	4.45647	P48643	2
MDILDVLTAAQELSRPGC*LGR	C628 ;C628 ;C628 ;	4.454667 5	Q9Y4R8	3
AIC*TEAGLMALR	C399 ;X ;C326 C399 ;	4.437002	P62191	3
EFESC*IQYYLENWLQHEK	C356 C322 C315 ;X ;X ;	4.434285	P51398	2
TIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C371 C281 C347 C371 C281 ;C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C371 C347 C371 C347 C371 ;C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C281 C281 C281 C281 C347 C371 C347 C371 C347 C371 C347 C371 ;	4.425457 89		3
C*GESMLCVVPDISAFR	C382 C384 C397 C362 C383 ;C382 C384 C308 C397 C362 C383 C322 ;X ;	4.424102	Q06330	3
VHVDC*MTSQK	C1455 ;C1455 C1455 ;C1455 C1392 ;	4.42117	P27708	3
YC*SGTGWPSFSEAHGTSGSDESHTGILR	C105 ;C105 ;X ;	4.416027 5	Q9Y3D2	2
NMVHPNVICDGC*NGPVVGR	C131 M121 C131 ;X ; C131 ;M121	4.405185	Q13501	2
GDQC*CYSHSPPTPR	C591 C620 ;C591 C620 ;X ;	4.404085	Q9NXH9	2
YSDVEVPASVTGYFASDGDGSGTC*SPLR	C430 C430 C430 C430 C430 C430 C430 C430 ;C430 C430 C430 C430 C430 C430 C430 ;C430 C430 C430 C430 C430 C430 C430 ;	4.394406 67	P35611	3
VC*FGIQLLNAVSR	X ;X ;C218 C114 C208 C182 ;	4.390762 5		2
KAEGDLGPSWVC*GFSNLESQVLEK	C184 ;C184 ;C184 ;	4.387993 33	Q15814	3
APAALPAC*DLLASAADPQIR	C42 C42 ;X ;C42 C42 ;	4.384035	Q8TEX9	2
NAVIPQYQALFMSDKC*ELNVTEDALK	C538 ;C538 ;X ;	4.37542	O76031	2
NHLLPDIVTC*VQSSR	C184 ;C184 ;C184 ;	4.368136 67	Q9BSD7	3
NAGNC*LSPAVIVGLLK	C335 C369 ;C335 C369 ;C335 C369 ;	4.365661 11	Q5SZU1	3
AHQLVLPPC*DVVIK	X ;C279 C279 ;X ;	4.353257 5		2
ATGHSGGGC*ISQGR	C24 ;C24 ;X ;	4.345858 33	Q9HA64	3

HLYTLDDGGDIINALC*FSPNR	C240 ;C240 ;X ;	4.335093 89	P63244	3
EFLFNAIETMPC*VK	C262 C202 ;X ;X ;	4.32792	P31350	2
C*SVLPLSQNQEFMPFVK	X ;C616 ;X ;	4.32187		2
IAEDLGGPYVWGQYDLLVLPSPFYGGMENPC*LTFVPTLLAGDK	C251 M247 C275 ; C251 M271 C275 M247 C275 ;X ;M271	4.31401	P09960	2
TC*VPADINKEEEFVEEFNR	C12 ;C12 ;X ;	4.30747	P98170	2
VVNEINIEDLC*LTK	C92 ;C92 ;C92 ;	4.306466 25	Q8N5K1	3
VLTMPETC*R	C867 C898 ;C867 C898 ;C867 C898 ;	4.3034	Q99460	3
AALEALGSC*LNNK	C70 C91 ;C70 C91 ;C91 C70 C91 C70 C70 C70 C91 C91 C70 C70 C70 C70 ;	4.302342	P34897	3
MAEFLDWSLC*NLAR	C234 C234 C234 ;X ;X ;	4.300375	Q9BTW9	2
C*ASQVGMTAPGTR	C236 C204 C215 ;C236 C204 C215 C236 C204 C215 ;C236 C204 C215 ;	4.268362 31	B4DUT8	3
DTEGGAAEINC*NGVIEVINYTQNSNETLR	C340 C527 C356 C372 C527 ;C340 C527 C356 C372 C527 ;X ;	4.266313 33	Q96SB4	2
EAVQC*VQELASPSLLFIFVR	C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 ;C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 ;C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 ;	4.259148 33	Q04637	3
AVTDSINQLITMC*TQQAPGQK	C1353 ;C1353 ;X ;	4.25663	Q9Y490	2
VVFIKPTC*PY	X ;C23 ;C23 ;	4.25651		2
VFFIQAC*QGDNYQK	C345 C377 ;C345 C419 C377 C360 C276 ;C345 C419 C377 C360 C276 ;	4.251818	Q14790	3
IAAYLQSDQFC*K	C208 ;C208 ;C208 ;	4.251292 5	P21266	3
VNSDC*DSVLPSNFFLLGGNIFDPLNLSLLDEEVS	C177 ;C177 ;C177 ;	4.24879	Q7L2J0	3
DLEQQDC*EIAQEIQEK	X ;X ;C85 C85 ;	4.238715		2
EC*LPLIIFLR	C41 ;C41 C41 ;C41 C41 ;	4.237124 74	P62701	3
AGEVPPAMYQFSQYVC*QQTGLQIPQLPAPPK	X ;C82 C60 C82 C60 ;X ;	4.231248		2
FIAGTGC*LVR	C217 ;X ;C217 ;	4.23041	A6NDG6	2
EC*SPWMSDFKVEFLR	C3683 ;X ;X ;	4.230105	P78527	2
HEFSVDMTC*GGCAEAVSR	C12 ;X ;C12 ;	4.219026 67	O00244	3
HC*NLLGDELLECLSWR	C120 ;C120 C120 ;X ;	4.218182 5	A6NDU8	2
AYCHILLGNYC*VAVADAK	C62 C62 ;C62 C62 ;C62 C62 ;	4.213846 67	Q9Y2Z0	3
TMHLLLEVEVIEGTLQC*PESGR	X ;C100 C95 ;X ;	4.212955		2

ENC*TLQFESAWVLTNIASGNSLQTR	X ;C141 C141 ;C141 ;	4.19948		2
EVAGIKFWC*YHAGHVLGAAMFMIEIAGVK	X ;C116 C153 ;C116 C153 ;	4.197535		2
VPLDVAC*AR	X ;C3181 C3295 ;C3295 C3185 C3162 C3144 C3126 C3158 C3158 C3136 ;	4.184215		2
SEGGFIWAC*K	C269 ;C269 ;X ;	4.162586 67	O75874	3
AHSNPDFLPVDNC*LQSVLGQR	C798 C703 C798 C703 ;C798 C703 ;	4.148878 75	Q5VSL9	3
DDFAYCLNCF*C*DLYAK	X ;C214 C324 C330 C214 C324 C330 ;C214 C324 C330 ;	4.135882		2
C*PSQLQPAPR	C923 ;C923 ;X ;	4.11247	P35568	3
KVVSCLSTC*IFPDK	X ;C139 C116 C116 C116 ;X ;	4.110605		2
SHIMPAEFSSC*PLNSDEEVNK	X ;C167 C226 C207 C207 C115 C115 C167 ;X ;	4.09548		2
VQENSAYIC*SR	C585 ;C585 ;C585 ;	4.094393 33	Q9Y3T9	3
IKSGEEDFESLASQFSDC*SSAK	C113 ;C113 ;X ;	4.083653 02	Q13526	3
SAQASVSC*ALEALEPFWEVLVR	C426 C274 ;X ;X ;	4.07719	Q9UBN7	2
IC*DPYAWLEDPDSEQTK	X ;C25 ;C25 ;	4.073865		2
VDENFDC*VEADDEVEGK	C101 ;C101 ;C101 ;	4.072454	O14929	3
VNLQMVDYDPLC*R	C533 ; C493 M526 C533 ;M455 C462 M486	4.071008 89	Q9Y285	3
LGTLPSPMLLSMNEMLVSHAC*YPLFKDQATNNGCAMASR	X ;C163	4.069095		2
ANC*DASLIVTEELHLITFETEVYHQGLK	C426 ;C426 ;X ;	4.064345	P40763	2
C*GNQAAMELDDTLKYSLQFDPAPR	C269 C269 ;C269 C269 ;X ;	4.057565	P67775	2
LSLEPLPC*YQLELDAVAEVK	C32 ;C32 ;X ;	4.022635	Q96RS6	2
SC*SVTDAVAEQGHLPPPSVAYVHTTGPLPSGWEER	X ;C220 C341 C333 ;X ;	4.020668 33		2
FMC*AQLPNPVLDSISIIDTPGILSGEK	C152 M151 C138 ; C138 M151 C138 ;M151 C152 M137	4.019635	C9JC03	3
DC*GGAAQLAGPAEADPLGR	X ;C8 C8 C8 C8 C8 C8 C8 ;X ;	4.002792		2
HLLSLMGIPYLDAPSEAEASC*AALVK	C163 M84 C99 ;X ; X ;M148	3.99133		2
LDGSLETTNEILDSASHDC*PLVTQTYGAAAGK	C375 C388 C393 C393 C375 C334 ;C375 C388 C393 C393 C375 C334 ;C375 C393 C393 C375 ;	3.986393 33	Q9Y4P8	3
ASHIQLDSLPEVPLLVDVPC*LSAQLDDSILNIVK	C154 C150 ;C154 C150 ;X ;	3.986	Q8IU8	2
YIYDQC*PAVAGYGPIEQLPDYNR	X ;C453 ;C453 ;	3.983307 5		2
ITALMVSC*NR	C1155 C1146 C1141 C998 C1145 ;C1155 C1146 C1141 C998 C1145 ;C1155 C1146 C1141 C998 C1145 ;	3.982887 5	O60271	3
VADSSPFALELLISDDCFVLDNGLC*GK	C275 C290 C275 C290 ;C275 C290 C275 C290 C275	3.975732 73	P40121	3

	C290 ;C275 C290 C275 C290 C275 C290 ;			
TSC*GSPNYAAPEVISGR	C185 C200 C174 C174 ;C185 C200 C174 C174 ;C185 C200 ;	3.975148 75	Q13131	3
EHSIEDLILLEEC*DANIR	C421 C362 ;C421 C362 C421 C362 ;X ;	3.972696 67	Q9H7B4	2
SLPGPAPC*LK	X ;C107 C26 C78 ;C107 C26 C78 ;	3.964006 67		2
WGTIMEVENTHC*EFAYLR	C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 ;C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 ;C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 ;	3.962615	Q9UHD8	3
SC*PSFSASSEGR	C9 C9 ;C9 C9 ;C9 C9 C9 ;	3.960555	D6RFG8	3
KLLAPDC*EIIQEVGK	C215 ;C215 ;X ;	3.959827 5	Q9NQT5	3
SEETNTEIVEC*ILK	C902 C903 ;C902 C903 ;C902 C903 ;	3.957683 33	A0A087WV 66	3
AFQYVETHGEVC*PANWTPDSPTIKPSPAASK	C229 ;C229 ;C211 C229 ;	3.94685	P30048	3
VMGIVENMSGFTCPHC*TECTSVFSR	C199 ;X ;X ;	3.946245	Q9Y5Y2	2
LFVCIC*EFTSQELDNLPLHR	X ;X ;C75 ;	3.945393 33		2
GDSEPTPGC*SGLGPGGVR	C13 C13 C13 C13 C12 ;C13 ;X ;	3.93113	F2Z3M0	3
EILDEAYVMASVDNPHVC*R	C775 ;C775 ;X ;	3.929965	P00533	2
YLVLDLDC*VPEER	X ;C1062 C1041 ;C1062 C1041 ;	3.92852		2
WNDNC*PSWNTIDPEER	C301 ;C301 ;C301 ;	3.925658 33	P17655	3
SC*GHQTSASSLK	C377 ;X ;X ;	3.92378	Q9HB90	2
GIGMNEPLVDC*EGYPR	C59 M52 C59 ; C59 ;M52	3.920093 64	O00233	3
TVYGGGC*SEMLMAHAVTQLANR	C412	3.917749	P78371	3
IQLQQQQQQSC*QHLGLLTPVGVGEQLSEGDIAR	C906 C791 C793 C906 ;C906 C791 C793 C906 ;X ;	3.916126 67	O75179	2
ADASSTPSFQQAFASSC*TISSNGPGQR	X ;C688 C928 ;C688 C928 ;	3.915375		2
ELEVLLMC*NK	C109 ; C91 M108 C91 M90 C109 ;M90 C109 M90	3.912222 17	D3YTB1	3
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;	3.906316	Q04637	3
VLVTQQFPC*QNPLPVNSGQAQR	C33 ;C33 ;C33 C33 ;	3.905922	O14965	3
LPLC*SLPGEPNGPDQQLQR	C75 ;C75 ;X ;	3.902462 22	Q96GX2	3

AAGIIHLGATSC*YVGDNTDLILR	C113 ;C113 ;C113 ;	3.898573 33	P30566	3
KNEPPLTC*PYSLK	C295 ;C295 ;X ;	3.8949	Q9UGP8	2
STFFNVLTNSQASAENFPFC*TIDPNESRVPVDER	C55 C75 ;C55 C75 ;X ;	3.882415	Q9NTK5	3
DLCELNEC*PLDPGGYFIINGSEK	C102 C170 C177 ;C102 C170 C177 ;X ;	3.877605	C9J4M6	2
VQTDPPSPVIC*DLYPNGVFPK	C98 C85 C120 C121 ;C98 C85 C120 C121 ;X ;	3.852013 33	P50579	2
DNLTLWTSDSAGEEC*DAAEGAEN	C237 ;C237 ;C237 ;	3.85119	P27348	3
ICNEILTSPC*SPEIR	C843 ;C843 ;X ;	3.846925	Q9BPX3	2
MDSLLIAGQINTYC*QNIK	C327 C324 C341 ;C327 C341 ;X ;	3.837067 5	O15372	2
ESTGNMVTGQTVK*K	C596 ;C596 ;X ;	3.832675	Q15021	2
PSYSSFTQGDSWGEVEDEEEGC*DQVAR	X ;C48 C48 ;C48 ;	3.824818		2
GYWASLDASTQTTHELTIPNNLIGC*IIGR	C293 ;C293 ;C293 ;	3.819204 29	Q15365	3
SC*NGPVLVGSPQGGVDIEEVAASNPELIFK	C162 C162 ;C162 C162 C162 C162 ;X ;	3.817176	Q96I99	3
YTC*LGCLVECIGVEHILAIK	C457 ;X ;C457 C457 C457 C457 ;	3.81699	Q6YHU6	2
EKLC*YVALDFENEMATAASSSSLEK	C219	3.814283 75	P68032	3
THLCDVEIPGQGPCM*ESNSTMPGPSLESPVSTPAGK	C182 M175 C165 M139 C129 ;X ; C129 ;M160 C150 M192	3.8071	Q86X76	2
C*ASQSGMTAYGTR	C196 C164 C175 ;C196 C164 C175 ;C196 C164 C175 ;	3.806087 5	B4DUT8	3
DASALLDPMEC*TDTAEEQR	C287 ;X ;C287 C287 ;	3.800482 31	Q9BTE3	3
C*MTNTPVVVR	C120	3.794552 86	P32322	3
AQILVLTYPILIGNYGIPPEMDEFGLC*K	C73 ;M67 C73 ; C73 M67	3.767278 57	P27708	3
LAIIVDEGGDALLVSLVC*R	C86 ;C86 ;X ;	3.765731 43	A0A0B4J2E 5	3
TLC*GTPTYLAPEVLVSVGTAGYNR	C428 C164 C129 C294 C356 C385 ;X ;C428 C164 C129 C294 C356 C385 ;	3.75426	O96017	2
SFC*PGGTDSVSPPPSVITQENLGR	C314 ;C314 ;C99 C314 ;	3.753248	Q9C0C9	3
GC*IVDANLSVLNLVIVK	C100 C100 ;C100 C100 ;C100 C100 ;	3.752578 33	P62753	3
VC*SVNPPSAIEMQLR	X ;C901 C748 C410 C901 C901 ;C901 C748 C410 C901 C901 ;	3.74997		2
NMITGTAPLDGC*ILVVAANDGPMPQTR	C147 ;X ; C147 ;M137 C556 ; C556 ;M469 X ;M469 C481 M544	3.74853	P49411	2
SQMYSTDYDQILPDC*YSWPPEEVQK		3.74652		2
DLSYC*LSGMYDHR	C267	3.742621 25	P52597	3
YSEEANLIEEC*EQAER	X ;C131 ;C131 ;	3.73864		2
EFCENLSADC*R	C317 ;X ;C317 ;	3.73476	P30153	2
DVPLADPGLDNDVGVEVGGSGGC*LEER	C62 ;X ;C62 ;	3.72866	Q9NPA3	2
VGMGSGSIC*ITQEV LACGRPQATAVYK	C331 ;C331 ;X ;	3.722021 43	P12268	3
ECENCDC*LQGFQLTHSLGGGTGSGMGTLLISK	C476 C129 ;C476 ;C476 C129 ;	3.712654 29	A0A0B4J26 9	3

NTVLC*NVVEQFLQADLAR	C70 ;C70 ;C70 C70 ;	3.707312	Q14258	3
C*YGGLWEK	X ;C213 ;C121 ;	3.70413		2
EANTLNLAPYDACWNAC*R	X ;C285 C285 C285 ;X ;	3.703153 33		2
AGYDGESIGNC*PFSQR	C487 C469 ;C487 C469 ;X ;	3.69695	Q96NY7	2
AINC*ATSGVVGLVNCLR	C1448 C1448 C1446 C1446 ;C1448 C1448 ;C1448 C1448 ;	3.688496 67	P49327	3
GPVLAEDFLDIMGQPINPQC*R	C162 ;M154 C162 M154 C162 ;	3.68287	P21281	3
SC*PETLTHAVGMSSEPIGPK	C648	3.67825	Q68CZ2	2
VIIVQAC*R	C328 C258 C258 C257 C315 C173 C202 C211 C245 ;C258 C258 C202 C211 C258 C258 C202 C211 C328 C257 C315 C173 C245 C328 C257 C315 C173 C245 ;C328 C258 C258 C257 C315 C173 C202 C211 C245 C328 C258 C258 C257 C315 C173 C202 C211 C245 ;	3.66891	P51878	3
LGMLSPEGTC*K	C212 C212 ;C212 ;X ;	3.667877 14	P49327	3
C*GVTSVDIR	X ;C301 ;C183 C301 ;	3.659892 5		2
QVLVAPGNAGTAC*SEK	C41 ;C41 ;C41 ;	3.652634 29	P22102	3
SC*SPSPVSPVQVQQAADTISDSVAVPASLLGMR	X ;C96	3.651772		2
IHMGC*AENTAK	C196 ;C196 ;C196 C196 ;	3.645986 67	P24752	3
VC*FVGDGFTR	X ;C154 C154 C63 ;C154 C154 C63 ;	3.639953 33		2
EGGQYGLVAAC*AAGGQGHAMIVEAYPK	C443	3.627726 67	F5GZQ3	3
GQFHEYQESTIGAAFLTQVC*LDDTTVK	X ;C97 C64 ;X ;	3.622215		2
LWNTLGVK*K	C138 ;C138 C138 ;X ;	3.620836 67	P63244	3
SYAQSQGWWTGEGEFNSEVFPVEDHLC*GAGK	X ;C235 C255 ;C167 C235 C255 ;	3.617685		2
VHIPNDDAQFDASHC*DSDKGEFGGFSVTGK	C141 C97 C141 C97 ;C141 C97 ;X ;	3.616782 31	Q16576	3
ISSINSISALC*EATGADVEEVATAIGMDQR	C241 ;C144 C241 C174 ;X ;	3.612702 5	O60701	3
KLTEDLSC*QR	X ;C373 ;C373 ;	3.6091		2
AEVLISTVGPEDC*VVPFLTRPK	C38 ;C38 ;C38 ;	3.608844	P56192	3
YSLEDVTEVSEQSNQATALAFLGSQSAAPTDC*VSSFNQDPSS CGEGR	C133 C133 C197 ;C133 C133 C197 ;X ;	3.6081	Q9Y5U2	2
INPIC*NDHYR	C70 ;C70 ;C70 C70 ;	3.605974	Q96KB5	3
YINENLIVNTDELGRDC*LINAAK	C147 ;C147 C147 C147 C147 ;X ;	3.605175	P17987	2
EENVGLHQTLQTLNELNC*I	C283 C109 C247 ;C283 C109 C247 ;C283 C109 C247 ;	3.602996 36	P67936	3
C*GVPFTDLLDAK	X ;C230 C149 C201 ;X ;	3.602116 67		2
NVGTGLVGAPAC*GDVMK	X ;X ;C69	3.599783 33		2

AWNAYPYC*R	X ;C96 C94 C94 C94 ;C96 C94 C94 C94 ;	3.594253 33		2
DYEFMWNPHLGYILTC*PSNLGTGLR	X ;C283 ;X ;	3.58801		2
LMEQLLSSVGFC*TEVEEDLIDAVTGLSGSGPAYAFTALDALADG GVK	C159 C186 C159 ;C159 C186 C159 ;X ;	3.586241	P32322	3
SQIC*DNAALYAQK	C272 ;X ;X ;	3.578605	P55060	2
ALLVTASQC*QQPAENK	C93 ;C92 C93 ;C92 C93 ;	3.56675	Q01518	3
THTYEC*R	X ;C1062 C1130 C1137 ;X ;	3.5568		2
TFVGTPC*WMAPEVMEQVR	C191 C191 C237 C218 ;C237 C218 C191 C191 ;C191 C191 C237 C218 ;	3.55031	C9JIG9	3
LC*PQLMPMLEEAR	C350 C350 ;C350 C350 ;X ;	3.549895	Q8TEX9	2
AC*SVGAVPGITK	C278 ;C278 ;X ;	3.54841	Q9NVN8	2
TTLEHSDCAFMDNEAIYDIC*R	C213 C213 C213 C213 C213 C237 C147 ; C213 C213 C213 C213 C213 C213 C213 C213 C213 C237 C213 C237 ;X ;	3.545245 42		3
EVFSSC*SSEVVLSGDDEEYQR	C108 C108 C108 ;C108 C108 ;C108 C108 ;	3.542601 67	Q09666	3
VLHDAQQC*R	C608 ;C608 ;X ;	3.54164	A1LOT0	2
GWNEC*EQTVALLSLLK	X ;C20 C20 C20 C20 C20 C20 C20 C20 ;C20 C20 C20 C20 C20 C20 ;	3.53497		2
SLTTEC*HLLDSPGLNCSNPFTQLER	C801 C720 ;C801 C720 C801 C720 ;C801 C720 ;	3.533678	Q15398	3
TLLLTPVGAHLTNEVC*EIMQSCFR	X ;C158 C158 C158 ;C158 C158 C158 ;	3.52744		2
VVNIEGVDSNMC*CGTHVSNLSDLQVIK	C322 M382 C292 ;X ; C292 ;M321 C209 M291 C383 M208	3.527201 43	Q9BTE6	2
NLNDQVLFIDQGNRPLFEDMTSDC*R	X ;C70 C74 ;X ;	3.52458		2
FQSAAGALQEASEAYLVGLFEDTNLC*AIHAK	C111 C111 ;C111 C111 C111 C111 ;C111 C111 ;	3.523662 31	P84243	3
YVC*EGPSHGGLPGASSEK	C61 C62 ;C61 C62 ;X ;	3.522048 75	P19838	3
AAAENLPVPAELPIEDLC*SLTSQSLPIELTSVVPESTEDILLK	C65 ;C65 C65 ;X ;	3.516348	Q96JB2	3
AVASQLDC*NFLK	C193 C207 ;C193 C207 ;C193 C207 ;	3.497167 14	P62333	3
IC*SHSAPEQQAR	C19 ;C19 ;X ;	3.495416 67	O75683	2
ITTFPPVPVTC*DAVR	X ;C135 C135 C108 C108 C108 ;X ;	3.488795		2
ASYFQC*VQR	C47 C47 ;C47 ;X ;	3.470326 67	P30281	3
YWLC*AATGPSIK	C249 ;C249 ;C249 ;	3.470057 14	P63244	3
LLDRDAC*DTVR	C204 C247 ;C204 C247 ;X ;	3.46914	Q9NZL4	3
VC*ISILHAPGDDPMGYESSAER	C89 C61 ;X ;X ;	3.465622 5	P60604	2
C*VLNWFWDWSTEALYQVVK	C3089 C3089 ;C3089 ;C3089 ;	3.460964	Q14204	3

HLGGIPWTYAEDAAPTLPTR	C268 ;C268 ;X ;	3.4556	P31930	3
LIQQVAQEIWVC*EK	C586 C586 ;C586 C586 ;X ;	3.453273 33	Q9UG63	3
C*QQALAELESVLSHLEDFAR	X ;C124 C156 ;X ;	3.452252		2
TSAC*GLFSVCYPR	X ;C148 C160 C160 ;X ;	3.448023 33		2
YGVGLLIAGYDDMGPHIFQTC*PSANYFDCR	C148 ;M146 C154 M140 C148 ;	3.436771 82	P25786	3
NYLEPGKEC*VQPATK	C997 ;C997 ;X ;	3.433576 67	P16615	2
LNIISNLDC*VNEVIGIR	C390 C275 C402 C402 ;C390 C402 C402 ;X ;	3.432562 5	P30153	3
SC*TPSPDQISHR	C272 C272 ;C272 C272 ;X ;	3.431333 33	Q7Z2W4	2
TSGSEDDNAEQAELEPGWVLDQPDAAAC*HLQQQQEPLPP GWEER	C192 C601 C182 ;X ;C192 C601 C182 ;	3.43132	H0Y8X6	2
NLC*SQMSAVSGPLLQWLEDR	C248 C250 C274 C273 C274 C159 C249 ;C248 C250 C274 C273 C274 C159 C249 ;C248 C204 C273 C249 ;	3.429834	P46736	3
ENFDEVVNDADIILVEFYAPWCGHC*K	C209 ;X ;X ;	3.419165	P13667	2
FDDLQFFENC*GGGSFGSVYR	C22 ;C22 ;X ;	3.417357 5	Q9NYL2	2
FSIQTMC*PIEGEGNIAR	X ;C127 ;C136 ;	3.417106		2
VCNALALLQC*VASHPETR	X ;C99 C99 ;C99 C99 ;	3.41553		2
C*TPSVISFGSK	C34 C34 ;C34 C34 ;C34 C34 ;	3.414384	Q92598	3
DVIELTDDSFDKNVLDSEVWVMEFYAPWC*GHCK	C187 ;X ; C190 M230 C187 ;M182 C195 M179 C242 M187 C238 M234	3.412142 5	Q15084	3
VGESNLNGDEPTQC*SR	X ;X ;C549 C570 ;	3.4093		2
IPGGIIEDSC*VLR	C213 C175 C168 ;C213 C175 C168 ;C213 C175 C168 ;	3.404853 33	P49368	3
MALDALLQEIALSEPQLC*EVLQVAGPDR	C38 ;M21 C38 ; X ;M21 C38 M21	3.40222		2
DSTVNHTLTC*TK	X ;C214 C155 ;C214 C155 ;	3.396316 67		2
DLNYC*FSGMSDHR	C267	3.393084 78	G8JLB6	3
LLQPDFQPVC*ASQLYPR	C265 C201 C258 ;C265 C201 C258 ;C265 C201 C258 ;	3.392950 83	Q9UJW0	3
SFEC*LLGLNSNIGIR	X ;C88 C88 ;C88 C39 C88 ;	3.39199		2
GC*QDFGWDPFCQPDGYEQTYAEMPK	C129	3.391365	Q9BY32	3
EVYEGEVTELTPTC*ETENPMGGYGK	C141 ;X ;C141 ;	3.385252 5	Q9Y265	3
CEYPAAC*NALETLIHR	C612 ;C610 C612 ;X ;	3.380312	P54886	2
ECPSDEC*GAGVFMASHFDR	C126 ;C126 ;X ;	3.37889	P62979	3
VFAEC*NDESFWR	C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 ;X ;X ;	3.37594	D6RBC5	2
QLDMSLLC*QLYSLYESIQEYK	C109 ;C109 ;X ;	3.37029	Q96GI7	3
C*MQEIPQEIQK	X ;C184 ;X ;	3.36916		2

HLEEHVDVLMTSNIVQC*LAAMLDTVVFK	X ;C299	3.361301		2
IFLIDC*PGVVYPSEDSETDIVLK	C362 C214 ;C362 C214 ;C362 C214 ;	3.359213 33	Q13823	3
C*CMPYTPICIAK	C308 C351 C237 C351 C308 ;C308 C351 C237 C351 C308 ;X ;	3.356916 67	Q9NQW7	2
IIMC*AWNPR	C180 ;X ;X ;	3.354482 5	P04818	3
VLGSMC*QR	X ;C194 C194 C218 ;C194 C194 C218 ;	3.35145		2
YNVYPTYDFAC*PIVDSIEGVTHALR	C381 ;C381 ;C381 ;	3.34938	P07814	3
AVTVAFC*TLPTR	C163 ;C163 ;C163 ;	3.349245	Q5TA50	3
AAAFVTSPPSPDPTTPDFLNSLLSCGDLQVTGSAHC*TFNTAQK	X ;C298 C334 ;C298 C334 ;	3.346375		2
LLPVEPC*DLTEGFDPSVPPR	C34 ;C34 ;C34 ;	3.344095	O14893	3
HFADLLPGFLQAVNDSC*YQNDDSVLK	C229 C247 ;C229 C247 ;X ;	3.34244	O00410	2
ACGQIFC*GK	X ;C174 C190 C190 ;C190 C190 ;	3.342236 67		2
C*SVSAVNLPK	C251 C251 ;C251 C251 ;X ;	3.33748	Q3KQU3	2
HAELIASTFVDQC*K	X ;C283 ;C283 ;	3.336764		2
IYLCDIGIPQQVFQEVGINYHSPFGC*K	X ;C499 ;X ;	3.332845		2
LSIQC*YLSALDR	C224 ;X ;C224 ;	3.32507	Q01581	2
EADQKEQFSQGSPSNC*LETSLAEIFPLGK	C102 C161 ;X ;X ;	3.323512 22	A0A0U1RQ D1	3
LTVVDTPGYGDAINC*R	C146 C111 ;C121 C146 C111 ;C71 C111 C71 C121 C111 C111 C71 C111 C122 ;	3.323205 83	Q15019	3
SELEC*VTNITLANVIR	X ;C27 C27 ;C27 C27 C27 C27 ;	3.32281		2
NIAQIAVVMGSC*TAGGAYVPAMADENIIVR	C216 C216 ;C216 ;X ;	3.320298 33	Q9HCC0	3
FIC*EQDHQNFLR	C658 C614 ;C658 C614 ;X ;	3.31977	Q92598	2
SHSSDFPC*SDTFSNFTFWR	C869 C905 C863 C948 C889 C899 ;C869 C905 C863 C948 C889 C899 ;X ;	3.31738	Q14693	2
HGFC*GIPITDTGR	C140 C140 ;C140 C140 ;C140 ;	3.315879	P12268	3
LEELDIAIYNSINGAITQFSC*NISHLSSLIAQLEEK	X ;C224 C224 C224 ;C224 C224 C224 ;	3.31383		2
SPDQPPPC*PQFMAQ GK	C323 ;C323 ;X ;	3.312086 67	P49023	3
GYGC*AGVSSVAYGLLAR	X ;C115 C115 C115 C115 ;C115 C115 ;	3.308023 33		2
AGSPTLLNC*LMYK	C715 ;X ;X ;	3.30429	Q8TCJ2	2
FSAAC*GPPVTPECEHCGR	C347 C376 ;C347 C376 ;X ;	3.303636 67	Q9NXH9	2
DYVLNC*SILNPLLTLLTK	C115 C208 ;C208 ;X ;	3.30319	Q5TFJ7	2
C*NYLALVGGGK	X ;C63 ;C56 C63 ;	3.301951 67		2
FMC*AQLPNQVLESISIIDTPGILSGAK	C138 ; C138 ;M137	3.296208 33	Q9NZN4	3
ALVDGPC*TQVR	C42 C42 ;C42 C42 ;C42 C42 ;	3.293981 43	E7EPB3	3
VMGIVENMSGFTC*PHCTECTSVFSR	C196 ;X ; C196 ;M185	3.288066	Q9Y5Y2	2

AANSC*TSYSGTTLNLK	C140 C140 C140 C140 C140 ;C140 C140 C140 C140 C140 ;C140 C140 C140 C140 C140 ;	3.286344 29	Q9UPQ0	3
YQVTWYTSWSPC*PDCAGEVAEFLAR	C97 ;C97 C97 ;C97 ;	3.283786	Q9NRW3	3
KIVEAC*K	C182 C182 ;X ;X ;	3.28302	Q9NT62	2
TC*FISCVASGQRPHLCCISHGLASFLESVWFHC*LS	C185 ;X ; C185 C154 C185 ;C154 C154	3.27893	B4DVA9	2
YSTGSDSASFHTTPSMC*LNPDLGPPLEAYTIQGQY	C217 M212 C213 ;X ;X ;	3.275183 57	Q15366	3
RNHDGEC*TAAPTNR	C1166 ;C1166 ;X ;	3.27331	Q12769	2
DC*ATIFALSTMTSSVQIYNLSQNIQEDDLQQLFTEYGR	X ;C156	3.273083 33		2
C*LSIMLAEWEANPLICPVCTK	C122 C122 C122 C122 C122 C122 C122 C122 C122 ;C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 ;X ;	3.268648 33	Q86UA6	3
ILVNAC*CPGPVK	C226 ;C226 ;X ;	3.268125	O75828	2
IQFNDLQSLLC*ATLQNVLR	C585 ;C440 C585 ;C440 C585 C440 C585 ;	3.26349	Q14974	3
LLQC*DPSSASQF	C185 ;X ;X ;	3.262603 33	P37235	3
TASISSPSEGTPVGSYGC*TPQSLPK	C787 C864 ;C787 C864 ;X ;	3.26015	Q6PKG0	2
ISDLEIC*ADEFPGSSATYR	X ;C106 C171 ;C35 C106 C171 C171 C106 ;	3.258545		2
VQPQWSPAGTQPC*R	C110 ;C110 ;C110 C27 C40 C27 ;	3.257655 56	P49589	3
ECISIHVGQAGVQIGNACWELYC*LEHGIQPDGQMPSDK	C25 C25 C25 C25 C25 C25 ; C25 C25 C25 C25 C25 C25 ;X ;	3.254527 27		3
LFQEC*CPHSTDR	C184 C184 ;X ;X ;	3.252056 67	P61978	2
DLQPFPTC*QALVYR	C292 C404 ;C404 ;C404 ;	3.25202	Q14137	3
TCLPAPC*PSSSNISLWNILR	X ;C453 C489 ;X ;	3.251195		2
VVNIEGVDSNMCC*GTHVSNLSDLQVIK	C323 C384 C210 C293 ;X ;X ;	3.248793 33	Q9BTE6	2
VLSSC*PQAGEATLLAPSTEAGGGLTCASAPQGTLR	C88 C86 ;C88 C86 ;C88 C86 C88 C86 ;	3.247148 33	O15446	3
LPSSSTWGQQSNTTAC*QSQATLSLAEIQK	C959 C932 C960 C938 C932 ;C959 C932 C960 C938 C932 ;C959 C932 C960 C938 C932 ;	3.240501 67	Q6Y7W6	3
SSIEDAQC*PGLPDLIEENHVVNK	C696 C615 ;C696 C615 ;C696 C615 ;	3.227246 67	Q15398	3
YC*AAPTEPVIHNGSQGTNGSEISDSYQAEYPDEYHGEYQD DYPR	X ;X ;C273 ;	3.223697 5		2
DC*LIPMGITSENVAER	C50 C136 C177 ;X ;X ;	3.221156	H0Y4D4	3
GYDAPLC*NLLLFK	C379 C420 ;C379 C420 ;C379 C420 ;	3.215741 67	O60488	3
IIPTEEGLQLPSPTATSQPLESDAVEC*LNYQHXYK	C132 C132 ;C132 C132 C132 C132 ;C132 C132 ;	3.214520 97	P61978	3

LTEGC*SFR	C77 C77 C93 ;X ;C77 C77 C93 ;	3.213942 5	P42677	3
C*ASQAGMTAYGTR	C173	3.213586 67	Q15417	3
VC*NVAPIAGETK	X ;C336 C188 ;C336 C188 ;	3.210996		2
NTPLC*DSFVFR	X ;C429 ;C429 ;	3.206395		2
HFLSDTGMAC*R	C119 ;C119 ;X ;	3.205042	Q5TFE4	2
IDPENAEFLTALC*ELR	X ;C476 ;C428 C476 ;	3.203015		2
VTQNLPMKEGC*TEVSLLR	C308 C308 ;C308 C308 ;X ;	3.201752 5	H3BQZ7	3
DNEVDFQEYCVFLSC*IAMMCNEFFEGFPDKQPR	C81	3.19954	P26447	2
NC*DKGQSFFIDAPDSPATLAYR	C277 C266 ;C277 C266 ;X ;	3.196113 33	P53384	2
NEDEEGYVPTSYVEVC*LDK	C604 C543 C556 C609 C543 C604 C580 ;C604 C543 C556 C609 C543 C604 C580 ;C604 C543 C556 C609 C543 C604 C580 ;	3.195992 5	Q96RU3	3
VILITPTPLCETAWEEQCIIQGC*K	C37 C130 C150 ;C37 C130 C150 ;C125 C37 C37 C130 C37 C150 ;	3.195676 67	Q2TAA2	3
ENVPPGPEVC*ITHQEGEK	C14 C156 C156 C316 C156 C14 C316 ;C14 C156 C156 C316 C156 C14 C316 ;X ;	3.194567 5	F8VS07	2
FSFC*CSPEPEAEAAAAGPGPCER	C26 ;C26 C26 ;C26 C26 ;	3.193952 5	Q13501	3
SPWLAGNELTVADVVLWSVLQIQGC*SVTVPANVQR	X ;X ;C222 ;	3.188986 67		2
NPTCPKVAADGGLLNNSALAMHEC*K	C581 ; C581 M578 C581 ;X ;M578	3.188693 33	Q9NP80	2
TIYDIAWC*QLTGALATACGDDAIR	X ;C261 ;C261 ;	3.188643 33		2
C*EQPFFWNIK	C290 ;X ;X ;	3.175142 5	Q8IWB7	2
C*GEWANCFTLCCR	C267 C309 C309 C309 C306 ;X ;X ;	3.17189	Q96IV0	2
VEPC*SLTPGYTK	X ;C219 ;C219 ;	3.171442		2
FLSQIESDC*LALLQVR	C794 ;X ;X ;	3.170348 33	P52789	3
YC*RPESQEHPEADPGSAAPYLK	C687 ;C687 ;X ;	3.168993 33	P40763	2
VSMILQSPAFC*EELESMIQEKFKK	C68 ;X ;X ; C68 M60	3.162023 33	P35611	2
VDEFPLC*GHMVSDEYEQLSSEALEAAR	C49	3.159832 12	X1WI28	3
VANVIVDHSLQDC*VFSK	X ;C49 C83 C83 C49 C49 C90 C49 C49 C90 ;X ;	3.15704		2
ILQDDIESLMPIVYPTVGLAC*SQYGHIFR	X ;M108 C120 ;X ;	3.157036 67		2
FSFCC*SPEPEAEAAAAGPGPCER	C27 ;C27 C27 ;C27 C27 ;	3.148626 67	Q13501	3
AIVDALPPPC*ESACTVPTDVK	C270 ;C270 ;X ;	3.137583 33	Q15181	3
EC*PSDECGAGVFMASHFDR	C121 ;C121 C121 ;C121 ;	3.136742	P62979	3
DLTVCEPPKQC*SLPQDPAIVQSSLGSSTSSSQSMGSYGPFR	C80 C80 C85 C85 C85 ;C80 C80 C85 C85 C85 ;X ;	3.135946 67	A0A140TA7 6	3

TVEIC*PFSFDSR	C536 C572 ;X ;X ;	3.134835	Q9ULW0	3
LIPGC*EVILATPYGR	X ;C115 C115 ;C115 C115 ;	3.133995		2
C*SLQAAAILDANDAHQTETSSSQVK	C494 C525 ;C494 C525 ;C494 C487 C525 ;	3.132318 33	Q9UHB9	3
LGTLPPSPMLLSMNEMTLVSHACYPLFKDQDNATNNGC*AMASR	C177 ;X ;X ;	3.13201	Q9UJW2	2
LFTESC*SISPK	X ;C68 C68 C68 ;C68 C68 ;	3.130955		2
FSPNSSNPIIVSC*GWDK	C168 ;C168 ;C168 ;	3.129574 55	P63244	3
C*LAQEVNIPDWIVDLR	C140 C140 ;X ;X ;	3.119877 5	Q9Y4W2	3
YAC*GLWGLSPASR	C457 C26 ;C457 C26 C175 ;C457 C26 C175 ;	3.116912	Q15637	3
ANNNAAVAP TTC*PLQPVTDPFAFSR	C46 C46 ;C46 C46 ;C46 C46 ;	3.106996 67	J3KNL6	3
LISDAGYQGEITSVSTAC*QCLEVFSR	C186 C204 C195 C198 ;C186 C204 C195 C198 ;C186 C204 C195 C198 ;	3.105653 33	Q8IXH7	3
LPSPDC*PFPR	C148 ;C148 C148 ;X ;	3.105383 33	P29279	2
C*LEPTVALLR	X ;C337 C337 ;X ;	3.105133 33		2
ISFC*LDIHNSVK	C483 ;C483 ;X ;	3.103117 14	O43242	3
C*PSTHSEELHDCIQK	X ;C35 ;X ;	3.102638		2
GQNGDDSSAGGDFPPPAEVEPTPEAELLAQPC*HDSEASK	C122 ;C122 ;X ;	3.093263 33	O94992	3
LDC*NIEIQNIAIELTKPQYLSMIDLLESVDYMR	C322	3.092436	Q709C8	3
AVFPEGPC*EEPLQLR	C660 C900 C660 C655 C655 C900 ;C660 C900 C660 C655 C655 C900 ;X ;	3.084182	Q96P48	3
SAGAC*TAAAFK	C431 C462 ;C431 C462 ;C431 C462 ;	3.083401 67	P28838	3
QQYLC*QPLLDVLANIR	C552 C507 C578 C618 ;C552 C507 C578 C618 ;C552 C507 C578 C618 ;	3.081733 33	G3V1P5	3
SLDDSQC*GITYK	C282 ;C282 ;C282 ;	3.07363	Q9NVG8	3
VWLQYQC*LWDMQAENIYNR	C1059 C1059 ;C1059 C1059 ;C1059 ;	3.071178	Q14204	3
AQLVEIVGC*HFR	C184 ;C184 ;X ;	3.066687 5	O75446	2
LWDFQGFEC*IR	C184 C184 ;C184 C184 ;C184 ;	3.066634	P43034	3
FSTQGMGTNPADYSDSTSTDVC*GTK	C208 C85 ;C208 ;C208 C85 ;	3.065147 5	Q5T6F2	3
QEPLGSDSEGVNC*LAYDEAIMAQQDR	C23	3.061445	Q96FW1	3
GSSC*FECTHYQSFLYR	C238 C188 ;C238 C188 ;X ;	3.061418 33	P21964	3
QTISNAC*GTIGLIHAIANNK	C95 C95 ;C95 C95 ;X ;	3.061343 33	P15374	2
AMAHCGSQEALIVGGVGC*NVR	C265 ;X ;M249 C265 ;	3.059632 5	Q9NPF4	3
IDPTVTMMQVEEKPDVTYSVGGC*K	C180 M27 C43 ;M164 C180 ;M164 C180 ;	3.05913	P35998	3
C*VDLVIQELINTVR	C427 ;C427 C427 ;C427 ;	3.05512	P50570	3
GVLlyGPPGC*SK	C672 ;C672 C672 C672 ;C672 ;	3.054773 33	Q8NB90	3

VLDLILFTIALTASEVINPLIEELGC*DK	X ;C180 C229 ;C180 C229 ;	3.054405		2
AAVEEGIVLGGGC*ALLR	C442 ;C442 ;C442 ;	3.05224	P10809	3
VAVC*DIPPR	X ;C354 C701 C354 ;X ;	3.05032		2
KADVIVLAGTVC*DFR	C354 ;C354 C354 ;X ;	3.04905	A1L0T0	3
DKPVSC*GLAR	X ;C1729 C232 C1728 C904 C1700 C1701 C682 C746 ;C1729 C232 C1728 C904 C1700 C1701 C682 C746 ;	3.046265		2
GLC*AIAQAESLR	C97 C97 C97 ;C97 C97 C97 C97 ;	3.042894	P23396	3
YVEPIEDVPC*GNIVGLVGDQFLVK	C466 C466 ;C466 C466 ;C466 ;	3.041545 71	P13639	3
AAVLVQQWVSYADTELIPAAC*GATLPALGLR	X ;C31 C112 ;X ;	3.039974		2
AGC*AVTSLASELTK	C1227 C1218 C1227 C1183 C1218 C1203 ;C1227 C1218 C1227 C1183 C1218 C1203 ;X ;	3.037911 43	O60610	3
SVTYTLAQLPC*ASMALQILWEAAR	X ;C137	3.033103 33		2
HTLDGAAC*LLNSNK	C170 C102 C113 C134 ;C170 C102 C113 C134 ;X ;	3.030968	S4R3N1	2
AIGSDTSDIVHIWC*PEGMK	C239 C239 C239 ;C239 C239 C239 ;X ;	3.02758	Q71F23	2
VLILDEATSALDVQC*EQALQDWNSR	C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 ;	3.025602 94	X5CMH5	3
GC*ALQCAILSPAFK	C376 C376 C376 C376 C335 ;C376 C376 C376 C376 C335 C350 ;C376 C376 C376 C376 C376 C335 C350 ;	3.023345	Q92598	3
TPGAATASASGAEDGAC*GCLPNPGTFEECHRK	C74 ;C74 ;X ;	3.02317	O96008	2
FGSQC*MQPNNIMGIENICELAAR	C67 C47 C200 ;C67 C47 C200 ;X ;	3.022136 67	P24468	2
VFDPSC*GLPYWVWADTLVSWLSPHDPNSVVTK	C60 C60 C60 C60 C60 C49 C60 C60 ;C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 ;X ;	3.013552 5	O60828	2
VIGSGC*NLDSAR	C164 C163 C192 ;C164 C163 C192 C163 C163 ;C164 C163 C192 ;	3.011984	P07195	3
LFQECC*PHSTDR	C185 C185 ;C185 C185 ;X ;	3.01065	P61978	2
IITIPATQLAQC*QLQTK	X ;C381 C398 C470 C410 C458 ;C381 C398 C470 C410 C458 ;	3.008336 67		2
IQCTLQDVGSALATPC*SSAR	C80 C132 C132 ;C80 C132 C132 ;X ;	3.007825	S4R3P5	2

FDLFFILVDEC*NEVTDYAIAR	C540 ;C540 ;C540 ;	3.005536	Q14566	3
ELGAFGLQVPSELGGVGLC*NTQYAR	X ;C156 C134 C179 ;X ;	3.004186 67		2
DLTVC*EPPKQCQLPQDPAIVQSSLSSTSSFQSMGSYGPFR	C73 C73 C78 C78 C78 ;C73 C73 C78 C78 C78 ;X ;	2.997613 33	A0A140TA7 6	2
GTDIMYTGTLDC*WR	C257 ;X ;X ;	2.99695	P05141	2
VLQEALC*VISGVPGLK	X ;C648 ;C648 C648 ;	2.9953		2
LGTDESC*FNMLATR	C363 C341 ;X ;C363 C341 C363 C341 ;	2.994636 25	P20073	3
THLC*DVEIPGQGPMCESNSTMPGPSLESPVSTPAGK	C150	2.993961 67	Q86X76	3
VANC*SLGTATIISENLNNEVMMK	C521 C558 C410 C410 C1192 ;C1192 ;X ;	2.99319	Q6WKZ4	2
ISLGLPVGAVINC*ADNTGAK	C28 C32 C28 ;C28 ;C28 C32 C28 ;	2.985472 35	J3KT29	3
INPSETYPAFC*TCFPSEPGLVGPSVR	C425 ;C425 ;C425 ;	2.970338	Q96GW9	3
FEQSDLEAFYNVITVC*GTNEVR	C308 C306 C308 C306 ;C308 C306 C308 C306 ;C308 C306 C308 C306 ;	2.968825	Q5JPI3	3
LLGSTIPLC*SAQWER	X ;C304 C304 ;C304 C304 ;	2.9668		2
C*PEALFQPSFLGMESCGIHETTFSIMK	C257	2.958048 11	P60709	3
C*SSYSESSEAAQLEEVTSVLEANSK	X ;C179 C137 C94 C179 C137 C94 ;C179 C137 C94 C179 C137 C94 ;	2.952847 5		2
C*PFVENTWK	C259 C257 ;C259 C257 ;C259 C257 ;	2.949352 5	Q5JPI3	3
NLGNSC*YLNVSQVLFSPDFQR	C335 C335 ;C335 C335 ;C335 C335 ;	2.948735	P45974	3
NNTQVLINC*R	X ;C46 C36 ;C46 C46 C36 ;	2.94774		2
EHC*PAGQPVK	C435 ;C435 ;X ;	2.943673 33	Q6P2Q9	2
SGANVLICGPNGC*GK	C477 ;C477 ;C367 C477 ;	2.940507 14	P28288	3
C*AVSDVEMQEHYDEFFEEVFTEEMEEK	X ;C67	2.940202 5		2
LQDAFSSIGQSC*HLDLPQIAVVGQSAGK	C27 C27 ;C27 ;C27 C27 ;	2.936047 5	P50570	3
YDC*GEEILITVLSAMTEEAVAIK	C159	2.933567 33	P63241	3
TTC*MSSQGSDDDEQIKR	C22 C22 C22 C22 ;C22 C22 C7 C22 C22 ;X ;	2.931244	Q9P0V9	2
ELDLSNNC*LG DAGILQLVESVR	C409 ;C409 C203 ;C409 C409 ;	2.930477 5	P13489	3
EC*EGIVPVPLAEK	C105 ;C105 ;C105 ;	2.926905	P82932	3
DQVAQLDDIVDISDEISPSVDDLALSIYPPMC*HLTVR	C300 ;M299 C300 ; C300 M299	2.925112	O95273	3
AWC*VNCFACSTCNTK	C334 ;C334 C272 C334 C108 C276 C284 C309 C334 C272 C334 C108 C276 C284 C309 ;C334 C272 C334 C108 C276 C284 C309 ;	2.924547 5	A0A0J9YX C7	3
GLHDSC*PGQAR	C18 C18 ;C18 C18 ;C18 C18 ;	2.924086	Q32NC0	3

C*VLPEEDSGELAKPK	C305 C318 ;C305 C318 ;C305 C318 ;	2.922073 75	Q9Y3F4	3
AFAFVTFADDQIAQSLC*GEDLIK	C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 ;C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 ;C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 ;	2.921945	A0A087X26 0	3
VGVSVGQHTGEPVEELALSHC*GR	C306 C145 C88 ;C306 C145 C88 ;X ;	2.921027 5	Q9H6Y2	2
AFVNPFPDYAAAAGALLASGAAEETGC*VRPPATTDEPGLPFHQ DGK	C49 ;X ;C49 ;	2.915157 5	Q9NS86	3
VWNLANC*K	C182 ;C182 ;C182 ;	2.915015	P63244	3
MC*DFGISGYLVDSVAK	C207 ; C178 M206 C207 ;M211 C212 M177 C212 M206	2.90133	P46734	3
VC*HLGDQLEGVNTPR	C111 ;C111 C111 ;X ;	2.899426 67	O00471	2
VSDTVVEPYNATLSVHQLVENTDETYSIDNEALYDIC*FR	C211 ;C211 C211 C211 ;C211 ;	2.89675	Q13885	3
INQVFHGSC*ITEGNELTK	C1904 ;X ;X ;	2.89259	P78527	2
GFCHLCDGQEAC*CVGLEAGINPTDHLITAYR	C100 C138 ;C100 C138 ;X ;	2.891413 33	P08559	2
HPSAVTAC*NLDLENLITDSNR	C325 ;C325 C325 ;C325 C325 ;	2.890197 5	Q9UBF2	3
NLSFFLTPPC*AR	X ;C492 C494 C492 ;X ;	2.88676		2
LKNCGC*LGASPNLEQLQEENLK	X ;C34 C34 ;C34 ;	2.886575		2
TREEEC*HFYAGGQVYPGEASR	C51 ;C51 ;C51 ;	2.880092 5	Q13162	3
VLSECSPLMNDIFNKEC*R	C635 ;X ;X ;	2.871025	P53618	2
LEDQATAYVC*ENQACSVIPITDPCELR	C765 C721 C781 C765 ;C765 C721 C781 C765 ;X ;	2.87005	Q8TB22	2
VQYPQSQC*K	C633 ;C633 ;X ;	2.864736 67	Q14204	2
ATLQAALC*LENFSSQVVER	C21 C40 C21 ;C21 C40 C21 C21 C40 C21 C21 C21 C21 C21 ;C21 C40 C21 C21 C40 C21 C21 C40 C21 ;	2.861976 36	P59998	3
C*SEGSFLLTFFRPVTVPEMDQLDDEEGLPEK	C208	2.860996 25	Q15233	3
YQAEINDLENLGEMSGTC*GQVWK	C174 C131 C147 ;C174 C131 C147 ;X ;	2.857534	O14733	3
SLPDC*TPHPNSISIDAGPR	C197 C42 C736 C733 C29 ;C197 C42 C736 C733 C29 ;X ;	2.856563 33	Q9Y2H0	2
SLLETNEIPSLILWGPPGC*GK	C52 C272 ;X ;C52 C52 ;	2.856535 71	Q96S55	3
ENFSLDWC*K	C117 ;C117 ;C117 C113 ;	2.855552	P23919	3
LC*SGPGIVGNVLVDPSAR	C245 C245 ;C245 C245 ;C245 C245 ;	2.849005	Q9Y5P6	3
ALSGYC*GFMAANLYAR	X ;X ;C888	2.84853		2
IQC*FCFEEQR	X ;C217 ;X ;	2.848145		2

LVIYGGMSGC*R	C227 C227 C227 C227 ;C227 C227 C227 C227 ;C227 C227 C227 C227 C227 ;	2.846346 67	P51610	3
LALEQQQLIC*K	X ;C69 C69 ;C69 C69 ;	2.84383		2
MYGISLC*QAILDETKGDYEK	C324 ;C324 ;X ;	2.842267 25	P04083	3
VLGAHILGPGAGEMVNEAALALEYGASC*EDIAR	C429 M463 C378 M415 C378 ; C378 ;M415 C454 M364 C477 M440	2.841520 71	P09622	3
SQQTSGLSEQIDGSALSC*FSTHQNNLLNVFADQPNK	C213 C213 ;C213 C213 ;C213 C213 ;	2.840673 33	Q96FJ0	3
C*PGPLAVANGVVK	C604 ;C604 ;X ;	2.839033 33	Q9Y6Y8	2
TQLEQLYQWAQVKPNSNQVNLASCC*VMPPDLTAFK	X ;C194	2.838105		2
SPAAEC*LSEKETEELMAWMR	C573 C520 ;C573 C520 ;X ;	2.837963 33	Q12931	3
TGNPMSVC*GR	C499 C490 C493 C574 C491 ;C499 C490 C493 C574 C491 C499 C490 C493 C574 C491 ;X ;	2.835276 67	O95793	2
FC*SDCIVTALR	C69 C40 ;C69 C40 ;C69 C40 ;	2.832914	Q06587	3
DGPC*IYNNLEFGIDLDR	X ;C411 C411 ;C411 C411 ;	2.832805		2
SVC*PVTSGFSSPSPSAAAAAQEVR	X ;C5 ;C5 ;	2.82985		2
LSSLGGALPMFELVELQPSHLAC*PDVNLNSLDSSDVER	C361 ;M348 C361 ;X ;	2.828662 5	Q9Y4P1	2
VIIIQAC*R	C192 C264 C246 C285 C134 C248 C192 ;X ;C192 C264 C246 C285 C134 C248 C192 ;	2.826585	P29466	2
IISNASC*TTNCLAPLAK	C152 C152 C152 C152 ;C152 C152 C152 C152 ;C152 C152 C152 C152 ;	2.825089 41	P04406	3
LLC*SQLQVADFLQNILAQEDTAK	X ;C54 C54 ;C54 C54 ;	2.823265		2
VVMALGDYMGASC*HACIGGTNVR	C131 ;X ;X ;	2.822631 43	P60842	3
GGLQC*AVGWGSEEVTR	X ;C276 C199 C366 C162 C207 C257 C372 C382 ;C276 C199 C366 C162 C207 C257 C372 C382 ;	2.82254		2
VGAPLIC*CEIK	X ;C453 C494 ;C453 C494 ;	2.821283 33		2
DVLIEFYAPWC*GHCK	C406 C555 ;C406 C555 ;C406 C555 ;	2.819357 39	P30101	3
C*PLDPYFIMPDK	X ;C164	2.818356 67		2
C*CEEWCDEPKDQTVVGPALAAAYR	C160 ;C160 ;X ;	2.818005	P29279	2
VIEINPYLLGTMSGC*AADCQYWER	C116 C120 C120 C116 C120 C120 ;C116 C120 C120 C116 C120 C120 ;C116 C120 C120 ;	2.815604 38	P28062	3
SC*LSPKPPQGGQEQQQEDEVVLVEGPTLPETPR	C232 ;C232 C232 ;X ;	2.811472 86	Q8NCF5	2

AAC*LLDGVPVALKK	C53 ;C53 ;X ;	2.809992 5	Q8TDX7	2
HPWVC*QRSTVASMMHR	C273	2.807295	Q13555	2
APC*LPVTYQQTPVNMEK	C319 C339 ;C319 C339 C339 ;X ;	2.795925	O43683	2
SLC*NLEESITSAGR	C63 C63 ;C63 C63 ;C63 C63 C63 C63 ;	2.794748	Q52LJ0	3
AHGC*FQDGR	C63 ;C63 ;X ;	2.794746 67	Q9H1B7	2
LYQVISTPSDIFMVMVEYVSGGELFDYIC*K	C117 M102 C117 ; C117 ;M102	2.794336	Q13131	3
SIQPYQIPITGPAAVTSQSPVPC*K	C285 C285 C333 ;C285 C285 C333 ;X ;	2.79322	A0A087WZ D4	2
C*YYSNTDAVIYVVDSCDRDR	C63 C80 C63 C80 ;C63 C80 C80 ;X ;	2.785433 33	P40616	2
GC*WDSIHVVEVQEK	C147 C176 C147 C135 C173 C147 C176 C147 C135 C173 ;C147 C176 C147 C135 C173 ;X ;	2.782817 5	P47756	3
C*SPTVAFVEFPSSPQLK	C669 C669 C669 C657 C669 ;C669 C669 C669 C657 C669 ;C669 C669 C669 C657 C669 ;	2.78166	Q9UPQ0	3
NFPLALDLGC*GR	X ;C98 C98 C98 ;C98 C98 C98 ;	2.781215		2
SSGC*FPNMAAK	C460 ;C460 ;X ;	2.778287 5	Q96I24	2
DVIELTDDSFKNVLDSEDVWMVEFYAPWCGHC*K	C245 M187 C198 M179 C190 ;X ;X ; C241 M234 C193 M230	2.777156 67	Q15084	2
STLIDTLFNTNFEDYESSHFC*PNVK	C100 C100 C100 C100 C100 C100 C100 C100 ;C100 C100 C85 C100 C100 C100 C100 C85 C100 C100 C100 C100 C85 C100 C100 ;C100 C100 C85 C100 C77 C100 C100 C100 C85 C100 C77 C100 ;	2.77697	Q9P0V9	3
INPYMSSPC*HIEMILTEK	C144 ;X ; C144 M130 C144 ;M140 C144 M102 C106 M140 C134 M102 C144 M140	2.771546 88	A0A087WX M6	3
VCLYLTS*VNYVPEPENSALLR	X ;C236 ;C236 ;	2.76713		2
SPGVVISDDEPGYDLDFC*IPNHYAEDLER	C23 ;X ;X ;	2.766106	P00492	3
VLQSEFC*NAVR	X ;C47 C47 ;C47 C47 ;	2.76511		2
NAIDDGC*VVPGAGAVEVAMAEALIK	C406	2.76312	P40227	3
YC*VSWMVSSGMPDFLEK	X ;C302 C302 ;X ;	2.76189		2
GMLLGVFDGHAGC*ACSQAVSER	C174 C149 ;C174 C149 C174 C149 ;X ;	2.761346 67	Q9P0J1	2
C*LTQQAVALQR	X ;C1196 C1138 ;X ;	2.76037		2
GFCHLC*DGQEACCVGLEAGINPTDHLITAYR	C94 C132 ;C94 C132 ;X ;	2.759684	P08559	2
LDSSAC*LHAVGDK	C247 ;C247 ;X ;	2.75658	O94808	2
LLYEALVDC*KK	C175 ;X ;X ;	2.754184	Q7L2H7	3
AC*YLSINPQKDEALETEK	C222 ;C222 ;C222 ;	2.751592 94	P42025	3

FILLAC*DGLFK	X ;C325 ;C207 C325 ;	2.749807 5		2
TTSSANNPNLMYQDEC*DRR	C507 C507 C586 C584 C505 ;C507 C507 C586 C584 C505 ;X ;	2.749771 25	Q92841	3
VVTAGAIIPFLAPGQSLPDSLMLQFGGATPWTPLSAC*GEPSTGR	C403 C403 C368 C225 C403 ;X ;X ;	2.743452	Q9BUK6	3
C*SVLAAANSVFGR	C439 C482 ;C439 C482 ;X ;	2.739026 67	B1AHB1	3
SGQGAFGNMC*R	C96 C96 ;C96 C96 ;C96 C96 ;	2.738367 78	P36578	3
NSNVDSSYLESYQSC*PR	C645 C767 ;C645 C767 ;C645 C767 ;	2.736353 33	Q7Z2W4	3
LC*SLLDSEDYNTCEGAFGALQK	C134 C142 ;C134 C142 ;C134 C142 ;	2.735746 67	Q92973	3
EGIC*ALGGTSELSSSEGTQHSYSEEEK	C104 ;C104 ;C104 ;	2.733509 63	P13797	3
STC*SLTPALAAHFSENLIK	C450 C508 C553 C401 ;C450 C508 C553 C401 ;C450 C508 C553 C401 ;	2.732998 75	Q9BTA9	3
C*PFGALSIVNLPNSLEK	C65 ;C65 ;C65 ;	2.732296 67	P61221	3
FHEIC*SNLVK	C109 ;C109 ;X ;	2.730883 33	H3BN98	2
AVGYSC*MPSNKDEGLVVLVFNK	C180 C132 ;C180 C132 C180 C132 ;X ;	2.727798 33	Q7Z3B4	2
GIFPVLK*KDPVQEAWAEDVDLR	C474 C474 C474 C474 ;C474 C474 ;C474 C474 ;	2.722195	P14618	3
LVFLAC*CVAPTNR	C301 ;C301 ;C301 ;	2.719364 44	Q14566	3
SSLC*VNGSHIYNEEPQGPVR	C337 ;C337 ;X ;	2.71888	Q9BXF6	2
DPC*AAPNEGFCASAGVQTEAGVADLTWVGER	C65 C65 ;C65 C65 ;C65 C65 ;	2.716883 33	Q9BQA1	3
KITAFVPNDGC*LNFIENDEVLVAGFGR	C90 C90 ;C90 C90 C90 ;X ;	2.716713 06	P62266	3
MAAISESNINLCGSHC*GVSIGEDGPSQMALEDLAMFR	C425	2.709346 67	P29401	2
GPC*IIYNEDNGIIK	C208 ;C208 ;C208 ;	2.708533 16	P36578	3
TLEHSDC*AFMVDNEAIYDICR	C200 C200 C200 C200 C200 C224 C134 ;X ;X ;	2.708207 02		3
SAC*SLESNLEGLAGVLEADLPNYK	C44 ;C44 ;C44 ;	2.707812 5	Q09161	3
STDWEDDGWGAWEENEPQEPEEEGNTC*K	X ;C67 ;C67 ;	2.70487		2
YSSSFC*THDR	X ;C66 C66 ;X ;	2.702333 33		2
ESLC*QAALGLILK	X ;C509 C400 ;X ;	2.70001		2
GSSLC*DIALVVDIMHGLEPQTIESINLLK	X ;C720 C720 ;X ;	2.69558		2
TLIQNC*GASTIR	C455 C417 C410 ;C455 C417 C410 ;C455 C417 C410 ;	2.692943 33	P49368	3
LVDDQMNWC*DSAIEYLLDQTDVVLVGVGLQGTGK	C191 ;M188 C191 M188 C191 ;X ;	2.692905	Q9H0W8	2
AAQPPAPAVPPNTDVMAC*TQTALLQK	C152 C115 C146 ;C152 C115 C146 C152 C115 C146 ;C152 C115 C146 ;	2.689377 5	O60232	3
GSDC*GIVNVNIPTSGAEIGGAFGGEK	C478 C450 ;C478 C450 ;C478 C450 ;	2.68912	P49419	3
LSNVAPPC*ILR	C182 C182 C167 ;C182 C182 C167 ;X ;	2.68863	C9JB30	3

SISSSFGAEPSAPGGGGSPGAC*PALGTK	X ;C34 ;C34 ;	2.683033 33		2
VVETSALLC*TAQHLLAAVQSSGAPATASGPQVDNTGGEPAWDSP LR	C150 ;X ;X ;	2.679722	Q9H6W3	2
NFYGGNGIVGAQVPLGAGIALAC*K	C181 C219 ;C188 C181 C219 ;C181 C219 ;	2.674875	P08559	3
LVPATQC*GSLIGK	C109 ;C109 C109 ;C109 C109 ;	2.670517 69	Q15365	3
AGAIAPC*EVTVPAQNTGLGPEK	C119 ;C119 ;C119 ;	2.669472 31	P05388	3
DPETLVGYSMVGC*QR	C135 C135 ;C135 ;C135 ;	2.669130 5	P49327	3
LGGSLIVAFEGC*PV	C146 C163 C146 C163 ;C146 C163 C146 C163 C146 C163 ;C146 C163 C146 C163 ;	2.665266 15	P60981	3
VSLDPELEEALTSASDTELC*DLAAILGMHNLITNTK	C132	2.663771 67	Q9NYL9	3
VILALGDYMGATCHAC*IGGTNVR	C135 ; C136 M128 C135 ;X ;M129 C135 M128	2.663497	Q14240	3
LHC*SMLAEDAIAK	C138	2.659255	Q9H1K1	2
AC*PRPEGLNFQDLK	C219 C227 C307 ;C219 C227 C307 ;X ;	2.656096 67	P15927	2
FC*FTPHTEEGCLSER	C1118 C1118 ;C1118 ;X ;	2.65003	P49327	2
VAC*ITEQVLTLVNK	C477 ;C477 ;C477 C477 ;	2.649202 86	P04843	3
AHIAQLC*EK	C617 C621 C617 C617 C617 ;C617 C621 C617 C617 C617 ;X ;	2.64882	Q00610	2
IAILTC*PFEPKPK	C253 C215 C232 ;C253 C215 C232 ;X ;	2.64506	P48643	3
AGEGTYALDSESC*MEK	C272 C272 ;X ;C272 C272 ;	2.644202 5	O00541	3
C*ALSSPSLAFTPIIK	C238 C120 C255 ;C238 C255 ;X ;	2.641643 75	Q8NFH5	3
ANC*IDSTASAEAVFASEVKK	C268 ;C268 ;X ;	2.635545	P22087	3
ENC*PVPGKPGEVAAR	X ;C206 C239 ;C206 C239 ;	2.63521		2
TVDSQGPTPVC*TPTFLER	C237 ;X ;C237 ;	2.634865	Q9BYG3	3
ERPC*SAIYTPVEPSQR	C1756 C1732 C1723 C1732 ;C1756 C1732 C1723 C1732 ;X ;	2.633926 67	H0Y599	2
HEGVFIC*R	X ;C99 ;C99 ;	2.631157 5		2
APPPVFYNKPPEIDITC*WDADPVPEEEEGFEGGD	C678 C634 C632 ;C678 C634 C632 ;C678 C634 C632 ;	2.628582 5	Q16643	3
GDFYVIEAAC*DATYNEIVTLER	C109 C109 C109 ;C109 C109 ;C109 C109 ;	2.628047 14	P51116	3
VIVVGNPANTNC*LTASK	C155 C155 C137 ;C155 C155 C137 ;C155 C155 C137 ;	2.620845	P40925	3
LPSLPLVQGELVGLTC*LTAQTH	X ;C213 C223 ;C213 C223 ;	2.615595		2
EKTAC*AINK	X ;C292 C292 C293 C295 C295 ;C292 C292 C293 C295 C295 ;	2.610295		2
VLLSIC*SLLCDPNPDDPLVPEIAR	C78 C108 C78 C107 C107 C107 C78 C107	2.609626 67	D6RFM0	3

	C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;			
LVVPASQC*GSLIGK	C109 C109 ;C109 ;X ;	2.604026	Q15366	3
IVGIGYNGMPNGC*SDDVLPWR	C60 ; C71 M56 C60 M56 C60 ;M67	2.601134	P32321	3
LIAGTSC*YSR	C204 C204 ;C204 C204 ;X ;	2.60085	P34896	2
FIC*TTSIQNR	C20 C20 C20 C20 ;C20 ;C20 C20 ;	2.600562 31	P53396	3
EACPELDYFVVFSSVSC*GR	X ;C2024 ;C2024 C2024 ;	2.598155		2
STVLSLDWHPNNVLLAAGSC*DFK	C162 C115 C162 C162 ;C162 C115 C162 ;C162 C115 C162 C162 ;	2.597033 33	E9PF58	3
LAPILC*DGTATFVDLPGR	C568 ;C568 ;C568 C568 C568 C568 ;	2.595351 67	O43264	3
LISPNLGVVFFNAC*EAASR	C342 C316 ;C342 C316 ;C342 C316 ;	2.591443 33	Q66K74	3
GVLAC*LDGYMNIALEQTEEVNGQLK	C36 ;X ;X ;	2.59067	P62312	2
VHNQDPKDWPAQYC*EALADEENR	X ;C283 ;X ;	2.590582 5		2
DPCAAPNEGFC*SAGVQTEAGVADLTWVGER	C73 ;X ;C73 C73 ;	2.587345	Q9BQA1	3
SC*FPASLTASR	X ;C522 ;C522 ;	2.586725		2
LSDFGLC*TGLK	C234 ;C234 ;C234 ;	2.586646 67	Q15208	3
SGLAYC*PN DYHQLFSPR	C204 C199 C179 ;X ;X ;	2.58281	O60711	2
LPITVLNGAPGFINLC*DALNAWQLVK	X ;C241 C240 ;C241 C240 ;	2.58213		2
C*CLTYCFNKPEDK	C144 ;X ;X ;	2.581093 33	P62979	2
VRNC*SSPEFSK	X ;C53 C58 ;X ;	2.57652		2
APELLGC*K	C177 C177 ;X ;C177 C177 ;	2.574013 33	G3V5T9	2
C*GETAFIAPQCEMPIEWVCR	C81	2.571263 53	E9PBS1	3
IIATAVC*HTDAYTLSGADPEGCFPVILGHEGAGIVESVGEVTK	X ;C45 ;X ;	2.569126 67		2
ATC*APQHAGPGPADASK	C2535 C2516 C2503 ;C2503 C2543 C2535 C2516 ;X ;	2.567422	P21333	2
LSSC*DSFTSTINELNHCLSLR	C92 ;X ;X ;	2.566546	P07814	3
LC*VPAMNVNDSVTK	C272 C225 C260 C250 C353 C250 C352 ;C272 C225 C260 C250 C353 C250 C352 ;C272 C225 C260 C250 C353 C250 C352 ;	2.56644	O43865	3
ADLPPC*GACITGR	X ;C51 ;C51 ;	2.564185		2
SEGTYC*CGPVPVR	C370 ;C370 ;C370 ;	2.563351 25	P21980	3

FALNHPELVEGLVLINVDPC*AK	C166 C154 C166 ;C166 C154 C166 ;C166 C154 C166 C166 C154 C166 ;	2.562929 29	Q9UGV2	3
NLANSC*GTGIR	C416 ;C416 ;X ;	2.562425	Q96RE7	2
TVEEIEACMAGC*DK	X ;C482 ;X ;	2.56184		2
DSAQC*AAIAER	C376 ;C376 ;C376 ;	2.557254	Q96RS6	3
ETGANLAIC*QWGFDEANHLLLQNNLPAVR	C302 C264 C281 ;C302 C264 C281 ;X ;	2.556615	P48643	2
LVATDGAFSMDGDIAPLQEICC*LASR	X ;C245 C219 ;C245 C219 ;	2.55649		2
SGVIVLPC*GAGK	C342 ;C342 ;C342 ;	2.55537	P19447	3
ADIIHAC*DIVEDAAIAYGYNNIQMTLPK	C362 C362 C362 ;C362 C362 ;X ;	2.551606 67	Q9NSD9	3
IHESAGLPFFEIVDAPLNIC*ESR	C155 ;C155 ;C155 C155 ;	2.547333 33	O95340	3
MQPDQQVVINC*AIVR	C64 ;M54 X ;M54 C64 ;	2.54566		2
LDINLLDNVNC*LYHGEGAQQR	C34 C34 ;C34 ;C34 C34 ;	2.545465 71	C9J673	3
YSWSGEPLFLTC*PTSEVELPACSQCGGQR	C278 ;C278 C278 ;X ;	2.54435	Q9BRP1	3
ELLTEFGYKGEETPVIVGSALC*ALEGR	C222 ;X ;X ;	2.542627 5	P49411	3
YEIYGDSVDC*LPSCQLEVQLYQK	C285 ;C285 C285 ;C285 ;	2.541708	Q9BZD4	3
FAEMYPAFAEEYLYPDQTHFESCAETSPAPIPNGFC*ADFSPENS DAGR	C514 ;X ; X ;M482	2.540445		2
SSPGLSDTIFC*R	C27 ;C27 ;C27 ;	2.53764	Q9H8M7	3
ALC*QITDSTMLQAIER	C129 ;C129 ;X ;	2.537165	Q9Y678	2
SDLQDELDINELPNC*K	X ;C566 C549 ;C566 C549 ;	2.535076 67		2
EAESC*DCLQGFQLTH	X ;C109 C127 C127 C127 C93 C90 C127 ;C109 C127 C127 ;	2.533567 14		2
NWISQLQMHAYC*ENPDIVLCGNK	C123 ;X ;X ; C123 M119	2.530903 33	P51159	2
NC*GC*LGASPNEQLQEENLK	C34 ;C32 C34 ; C32	2.529342	P54136	3
C*AMTALSSK	C158 ;C158 ;C158 ;	2.528106 67	Q99832	3
C*LHNFLTDGVPAEGAFTEDFQGLR	C316 C268 ;X ;X ;	2.52662	G3V1A6	3
VLLSICSLLC*DPNPDDPLVPEIAR	C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;	2.524883 33	D6RFM0	3
ESESCDC*LQGFQLTHSLGGGTGSGMGTLISK	X ;C129 C129 ;X ;	2.5247		2
VTFSC*AAGFGQR	C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;	2.523231 43	Q14203	3
ETTNIFSNC*GCVR	C354 ;C354 ;X ;	2.52233	Q9UBB4	2

ILVALC*GGN	C343 ;X ;C343 ;	2.51995	P04083	2
FTTEIHPS*VTR	C612 ;C612 ;X ;	2.519816	P29317	2
ESGC*VLGLRPGAQESPVSWPEGSK	C437 C369 C227 ;C437 C369 C227 ;X ;	2.519285	Q6ZUT6	2
IIVFSAC*R	C91 ;X ;C91 ;	2.516643 33	Q07960	2
TTSFAESC*KPVQQPSAFGSMK	C14 C14 ;C14 C14 ;X ;	2.51519	P49841	2
C*IPALDSLTPANEDQK	C447 ;C447 ;C447 ;	2.514482 86	P10809	3
VGSFGSSPPLSSTYTGGPLGNEIASGNNGAAAGDDEDGQNLW SC*ILSEVSTR	X ;C51 C51 ;C51 ;	2.512376 67		2
NGQVCFSTQDHPKPC*NPR	C172 C172 C172 C172 C172 C172 ;X ;X ;	2.50988	C9JIR6	2
C*AGNEDIITLR	C81 ;C81 ;X ;	2.507134	P12004	2
LGTTAGQMC*SGLPGLSSVDINNFSGSINESEGIPLKR	C475 ;X ; C475 M474 C475 ;M474	2.506148 33	A0A087WV 66	3
AIVLFTSDAC*GLSDVAHVESLQEK	C193 C173 C326 C193 C173 C326 ;C193 C173 C326 ;X ;	2.505280 91	P24468	3
HELQANC*YEEVKDR	C122 C139 C177 C139 C122 C139 C177 C139 C122 C139 C177 C139 ;C122 C139 C177 C139 ;C122 C139 C177 C139 ;	2.504463 95	G3V1A4	3
EC*ISIHVQAGVQIGNACWELYCLEHGIQPDGQMPSDK	C4 C4 C4 ; C4 C4 C4 ;C4 C4 C4 C4 ;	2.501864 29		3
ILLAGC*PSYDK	X ;C214 C183 ;X ;	2.499185		2
ENSTLNC*ASFTAGIVEAVLTHSGFPAK	C139 ;C139 C139 ;C139 C139 ;	2.498018 82	Q8IUR0	3
C*AIQNAPNPGGGDLQK	C137 C137 ;C137 C137 ;X ;	2.497536	A0A0A6YY 96	2
FSPLCQWLYLEAADIVESLGKPEC*EEFLPR	C433 ;C433 ;X ;	2.49583	A0AVT1	2
VMEAFVNEPNYTVWSDLSC*NLGILSTLLSHTDFYEEIQEFVK	X ;M560 C653 M640 C657 ; C577 M636 C657 ;M560	2.49364		2
NAIQLLASFLANNPFC*K	X ;C439 ;C439 ;	2.49342		2
DAVPATLHLLPC*EVAVDGPAPVGR	C34 C28 C34 C34 ;C34 C28 C34 C34 ;X ;	2.491013 33	E9PN81	2
VAASC*GAIQYIPTELDQVR	C134 ;X ;X ;	2.487367	Q7L2H7	3
GVSLPLGFTFSFPC*QQNSLDESILLK	C606 ;C606 ;C606 C578 ;	2.487332 5	P52789	3
IAVYSC*PFDGMITETK	C244	2.482267 78	P50990	3
QLFALSC*TAEQGVLPDDLSGVIR	C96 C112 C96 C75 C112 C60 ;C96 C112 C96 C75 C112 C60 ;C96 C112 C96 C75 C112 C60 ;	2.48222	P04899	3
AQVPGSSPGLLSLNLQPPAAPEC*K	C314 ;C314 ;X ;	2.480674	Q86W42	3
ECISIHVQAGVQIGNAC*WELYCLEHGIQPDGQMPSDK	C20	2.479817 96		3
VTEPSAPC*QALVSIQDLQATFHGIR	C795 ;C795 ;C795 ;	2.479702 5	Q9UPN7	3
TTSILC*LAR	C88 ;X ;C88 C88 ;	2.478963 33	P35250	3
LC*VQNSPQEAR	C141 C150 C150 C150 C150 ;C141	2.470235	A0A0A0MT 56	3

	C150 C150 C150 C150 ;C141 C150 C150 C150 C150 ;			
LC*PNSTGAEIR	C377 ;C377 C240 ;X ;	2.46881	P35998	3
LALNC*VGGK	C263 C187 ;C263 C187 ;X ;	2.46832	Q9BV79	2
TC*ETGEPMEAESGDTSSSEGAQVYLPGR	C11 ;C11 ;X ;	2.466412	Q9BQ67	3
NLLC*GFYGR	C247 C247 ;C247 C247 ;X ;	2.466367 5	Q9UH17	3
AWSTGDC*DNGGDEWEQEIR	C54 ;C54 ;C54 ;	2.461384	Q9BRF8	3
ELELMFGC*QVEGDAAETPPRPR	C277 ;C277 ;C251 C277 ;	2.46032	Q02750	3
SVAFPICISTGVFGYPC*EAAAIEVLATLR	X ;C276 ;C276 ;	2.45833		2
LPC*EMDAQGPK	C196 C187 ;X ;X ;	2.455343 33	Q9UGI8	3
AAGTDSFNGHPPQGC*ASTPVAR	C517 C553 C553 C517 C553 C553 ;X ;X ;	2.454015	A0A0C4DH 01	2
EVFGSGTAC*QVCPVHR	C250 C342 C334 C302 C250 C342 ;C250 C342 ;X ;	2.452775	M0QZP4	3
VLTC*TDLEQGNFFLDFENAQPTSEK	C10 ;X ;C10 ;	2.446622 86	Q9NUQ9	3
SEMPSC*PFYIIR	C51 C51 ;C51 C51 ;X ;	2.445588	Q9BW27	3
TDICQGALGDC*WLLAAIASLTLNEEILAR	C105 C105 ;C105 C105 C105 ;C105 C105 C105 ;	2.445359 57	P17655	3
TTC*SSGSALGPGAGAAQPSASPLEGLLDLSYPR	C12 C12 C12 ;C12 C12 C12 ;C12 C12 C12 ;	2.445252	F8WDZ3	3
AAAPAPEEEMDEC*EQALAAEPK	C316 C266 ;C316 C266 ;C316 C266 ;	2.443631 67	P26641	3
SSSC*GDTELLGQATLPVGSRSRPLSR	C359 C359 ;C359 C359 C107 ;X ;	2.441205	O14523	2
LNPPAQLPNSEGLC*EFLEYVAESLEPPSPFELLEPTSGGFLR	X ;C208 C182 ;X ;	2.43871		2
CC*LTYCFNKPEDK	C145 ;C145 ;X ;	2.437321 43	P62979	3
LVEALC*AAGHR	C31 ;C31 ;X ;	2.436826 67	P23919	2
LLLC*GGAPLSATTQR	C450 ;C450 ;C450 ;	2.436626	O95573	3
VETNQDWSLMC*PNECPGLDEVWGEEFEK	C352 ;C352 ;X ;	2.435088 57	P23921	3
AISTIC*SLEK	C259 ;C259 C259 ;C259 C259 ;	2.433412	Q9UJX3	3
TYSHLNIAGLVGSIDNDFC*GDTMTIGTDSALHR	C170 ;X ;X ;	2.431381 54	P17858	3
C*HDYYTTEFLYNLYSSEGK	C630 C630 ;C630 C630 ;C630 C630 ;	2.430794 44	P17858	3
ENFDEVVNDADIILVEFYAPWC*GHCK	C206 ;C206 ;X ;	2.430343 89	P13667	3
NLLNC*LIVR	C1653 C1569 ;C1569 ;C1653 C1569 ;	2.423176 67	Q14999	3
LAAC*VNLIPQITSYEWK	X ;C73 C115 C73 C96 C96 ;C73 C115 C73 C96 C96 ;	2.42269		2
YAEYFLRPMLQYVC*DINSPEVR	C915 C933 ;C915 C933 ;C915 C933 C917 ;	2.422437 14	O00410	3
FLENTPSSLNIEDIEDLFLAQQYVC*SK	C283 C283 C283 C283 C283 C283 ;C283 C283 C283 C283 C283 C283 ;C283 C146 C283	2.420532 63	Q9NUY8	3

	C283 C146 C283 C283 C146 C283 C283 C146 C283 ;			
TGQATVASGIPAGWMGLDC*GPSSKK	C316 ;M284 C316 ; C288 M312	2.420066 25	P00558	3
GMENLLEVQVPEDVEQQLQQLDC*R	X ;M347 C368 ; C368 ;M347	2.417803 33		2
C*PFTGNVSIR	C60 ;C60 ;C60 ;	2.417651 11	P62280	3
EMQNLSFQDC*YSSK	C111 ;C111 ;X ;	2.4153	P30084	3
LTHNCLNFDFIGTSTDESSDDLC*TVQIPTSWR	C244 C245 ;X ;X ;	2.41495	Q9UIA9	2
NC*LNPQFSK	C54 ;C54 ;X ;	2.414115	O75131	3
NDITAWQEC*VNNSMAQLEHQAVR	C106 ;C106 ;C106 ;	2.41407	O75934	3
FALAC*NASDK	C171 ;C171 C137 ;C171 C137 ;	2.410647 5	P35250	3
EVC*PVLQFLCHVAK	X ;C22 C22 C22 C22 C22 ;C22 C22 ;	2.409568		2
TFQVLGNLYSEGDC*TYLK	X ;C595 C486 ;C595 C548 C486 C445 ;	2.407795		2
QVQSLTC*EVDALK	C328 ;C328 ;C328 C328 ;	2.406580 83	P08670	3
NLFINPSPLPDLSWGK*SK	C109 C109 C109 ;C109 C109 C109 C109 C109 C109 ;C109 C109 C109 C109 C109 C109 ;	2.40597	O96020	3
IC*QADIVEAVDIASAAK	X ;C107 C107 C172 C107 ;C107 ;	2.404855		2
FCSFSPC*IEQVQR	C209 C111 ;C209 C111 C209 C111 ;X ;	2.403625	Q96FX7	3
DSMC*NEFSQIFQLCQFVMENSQNAPLVHATLETLR	C199 ;X ; C199 ;M198	2.40353	O14980	2
EKHEEFCVPMVMVPATVSNVPGSDFSIGADTALNTITDTC*DR	C563 ;X ; C563 ;M532 C563 M532	2.401400 36	Q01813	2
TPC*NAGTFSQPEK	C129 C129 C129 ;C129 C129 C129 ;C129 C129 C129 ;	2.400905	J3QT28	3
FPDFLDC*LPGTNVLDLGTLESEDLIPLFNDVESALNK	X ;C363 ;X ;	2.399887 5		2
AGSNMLLIGVHGPTTPC*EEVSMK	C2491 C2532 ;C2491 C2532 ;X ;	2.397262 5	O75369	2
KVIGIEC*SSISDYAVK	C101 ;C91 C101 C109 C95 C73 C119 C91 C101 C109 C95 C73 C119 C91 C101 C109 C95 C73 C119 ;X ;	2.397201 95	Q99873	3
LFTEYPC*GSGNVYAGVLAVAR	C280 ;X ;C280 ;	2.39452	Q8IU81	2
LGTLAPFC*CPWEQLTQDWESR	X ;C705 ;C705 ;	2.391766 67		2
YMACC*LLYR	C323 M280 C283 ;M313 C283 ; M313 C316 M320 C316 M313 C283 ;	2.390579 17		3
ETEHC*VLSLAQLSATIFR	X ;C95 C95 ;C95 C95 ;	2.38919		2
ALSAVHSPTFCQLAC*GQDGQLK	C255 C272 C255 C255 ;C255 C272 C255 C255 ;X ;	2.388555	Q8IY67	2
GLLDVTC*K	X ;C120 ;C120 C120 C120 C120 ;	2.38559		2
DNEVDFQEYCVFLSCIAMMC*NEFFEGFPDKQPR	C76 ;M85 C76 ;X ;	2.383333 33	P26447	2
ANSSVSVNC*K	X ;C596 ;C543 C596 C543 ;	2.3803		2

TVPFLPLLGGC*IDDTILSR	C180 C190 ;C180 C190 ;C180 C190 ;	2.37934	Q7Z7H8	3
PC*GEDWLSHPLGIVQGFFAQNGVNPDEK	C3 ;C3 ;C3 C3 ;	2.378553	Q9BTE3	3
VVLPC*SVQEYQVQGLYSVAEASK	C15 C13 C13 C13 ;C15 C13 C13 C13 ;C15 C13 C13 C13 ;	2.375265	P48739	3
RVDDFEAGAAAGAAPGEEDLC*AAFNVICDNVVK	C98 ;C98 ;C98 ;	2.373406 67	Q13158	3
AILFSQPLQITDTQQGC*IAPVELR	C716 ;C716 C716 ;C716 ;	2.369617 69	Q8NBF2	3
C*GEYGENFNHC*SPLNTYELIHTGEMSYR	X ;C333 C337 ; C343 C327 C337 ;C333	2.368045		2
C*LPEIQGIFDRDPDPTLLYLLQK	C126 C126 C116 ;C126 C126 C116 ;X ;	2.368	Q96F24	2
FQSSAVMALQEACEAYLVGLFEDTNLC*AIHAK	C111 ;M91 C111 M91 C111 ;X ;	2.364451 33	P68431	3
NTGIIC*TIGPASR	C49 C49 ;C49 C49 C49 C49 ;C49 C49 ;	2.363574 29	P14618	3
MLPTYVC*ATPDGTEKGDFLALDLGGTNFR	C517 ;X ; C517 ;M511	2.362723 33	P52789	2
YATSCYSCC*PR	C144 C173 ;C144 C173 ;X ;	2.3592	Q13057	2
DLPTSPVDLVINCLDC*PENVFLR	C413 ;C413 ;C413 ;	2.358994 29	Q96F86	3
SFC*SQFLPEEQAEIDQLFDALSSDKNSPNVSSK	C13 ;X ;X ;	2.358743 33	Q6P9B6	3
DCIGGC*SDLVSLQQSGELLTR	C83 ;C83 ;X ;	2.356235	P35754	3
SSVQEEC*VSTISSKDEPLAATR	C78 ;C78 C78 ;X ;	2.35609	Q7L0Y3	2
LLDLVQQSC*NYK	C30 C34 ;C30 C34 ;C30 C34 ;	2.355248 89	P55769	3
ISGADINSIC*QESGMLAVR	C379	2.354468 33	P43686	3
CETMVYHPNIDLEGNVC*LNILR	X ;C111 ;C111 ;	2.3541		2
CPEALFQPSFLGMESC*GIHETTFNSIMK	C272	2.351441 19	P60709	3
SLHDALC*VLAQTVK	C395 ;C395 ;C395 ;	2.351400 67	P78371	3
AFPQLGGRPGPEGEGLSLEQPPPLQTQACPESSC*LR	C84 ;C84 ;X ;	2.349975	O94992	2
DHQPC*IIFMDEIDAIGGR	C228 C242 ;C228 C242 ;X ;	2.347823 21	P62333	3
AAIGC*GIVESILNWVK	C441 C405 C431 C486 ;X ;C441 C405 C431 C486 ;	2.34715	P11388	3
FTSC*VAFFNILNELNDYAGQR	C69 C69 C69 C69 C69 C69 ;C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 ;X ;	2.344786 25	S4R347	3
DSGYGDIWC*PERGEFLAPPR	C213 C228 C228 C176 ;C213 C228 C137 C228 C176 ;X ;	2.34176	J3KP06	3
IDILINCAAGNFLC*PAGALSFAFK	C53 C129 C120 C72 C108 ;C120 C72 C108 ;C53 C129 C120 C72 C108 C53 C129 C120 C72 C108 ;	2.33988	H7C078	3
TVGVQGDC*R	C523 ;C523 ;C523 ;	2.336705	P49915	3
LTWHSC*PEDEAQ	C177 ;C177 ;C177 C177 ;	2.333494 29	Q13185	3
VSDTVVEPYNATLSVHQLVENTDETYCIDNEALYDIC*FR	C193 C193 C174 C174 C211 C211 C141 C141 C211 C211 C211 C211	2.32924	Q5JP53	3

	C211 C211 ;C193 C193 C141 C141 C211 C211 C211 C211 C211 C211 C211 C211 ;C193 C193 C211 C211 C211 C211 C211 C211 C211 C211 ;			
INQMVC*NSDR	C853 ;C853 ;X ;	2.32811	P06400	2
FVNEAVMCLQEGILATPAEGDIGAVFGLGFPPC*LGGPFR	X ;C713 ;X ;	2.324655		2
EIFTSLEYGVPESHAC*ALAWLDTQDR	C28 C28 ;C28 C28 ;X ;	2.324006	Q8IZ83	2
VFLYELLPESPFLEC*NSFTSPDPHK	X ;C770 C770 C770 C685 C752 ;C770 C770 C70 C770 C685 C752 ;	2.321945		2
VGLGIC*YDMR	C153	2.320963 33	Q9NQR4	3
GPTKEELC*K	X ;C466 C453 ;X ;	2.318467 5		2
LCLNIC*VGESGDR	C24 C25 C23 ;C24 C25 C23 ;C24 C25 C23 C24 C25 C23 ;	2.318282	P62913	3
TFSFC*GTIEYMAPEIIR	X ;C198 C198 C198 C182 ;C198 C198 C198 C182 ;	2.314453 33		2
DGSDYEGWC*WPGSAGYPDFTNPTMR	X ;C502	2.310466		2
LC*DFGVSQLIDSMANSFVGTR	C114	2.310033 64	G5E9C7	3
DIIEHLNTSGAPADTSDPLQIC*K	C475 ;C475 ;C475 C399 ;	2.310015	P37198	3
VVLLGEFLHPC*EDDIVCK	C80 C80 ;X ;C80 C80 ;	2.309137 5	Q9NY12	3
MAYQEYPNSQNPEDTNFC*FQPEQVVDPIQTDPFK	C126 C126 C143 C126 C126 ;C126 C126 C143 C126 C126 ;X ;	2.309073 33	P27816	2
C*YQLPPGAR	C252 C223 ;C252 C223 ;X ;	2.30895	P13716	2
FMTPIQDNPSGWGPC*AVPEQFR	C19 ;X ;M5 C19 ; C19 M5	2.308689 09	O15371	3
ELEASEELDTIC*PK	C229 ;C229 ;X ;	2.307642 5	O76003	3
C*IADVSLFITVMDK	C128 C111 ;C111 ;C128 C111 C128 C128 C128 C111 C128 C128 ;	2.307285 56	Q9UK41	3
IIPGFMC*QGGDFTR	C62 ;M61 C62 M61 C62 ;	2.30481	C9J5S7	3
LLLLAGANPDFNC*NGPVNTQGFYR	C121 C222 ;C121 C222 ;C121 C222 ;	2.304763 33	B9A047	3
GNLNFTC*NGNSVISPVGNR	C24 ;C24 ;X ;	2.30345	A0A0B4J2E 5	2
TC*NVLVALEQQSPDIAQGVHLDR	C104 ;C104 C104 ;C104 ;	2.30216	P31153	3
YIIVTQVGPQPILDDPC*HLLGPDGLPKPAA	X ;C386 ;X ;	2.301422 5		2
NPLC*PLGQTQSELFR	X ;C115 ;C115 ;	2.300798 57		2
AAQDFSTC*R	C59 ;C59 ;C53 C59 ;	2.298142 5	P06132	3
GYWGLDASAQTTSHELTIPNDLIGC*IIGR	X ;C297 ;C301 C297 ;	2.295143 33		2
LSC*VPVLIFANK	X ;C118 ;C118 ;	2.294141 67		2

YFNPTGAHASGC*IGEDPQGIPNNLMPYVSQVAIGR	C196 ;C196 ;X ;	2.292383 33	Q14376	3
GLNPLNAYSDLAEFLETEC*YQTPFNK	C343 C343 ;C343 C343 ;C343 ;	2.288623 64	O14879	3
DAWASPC*HSYPLVATR	X ;C374 ;X ;	2.288075		2
NEC*DPALALLSDYVLHNSNTMR	C459	2.287196 36	Q13200	3
C*SDSDGLAPPQHLIR	C182 C143 C171 C182 C182 C143 C143 C143 C182 C182 C143 C171 C182 C182 C143 C143 C143 C182 ;C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182 ;X ;	2.284325	P04637	3
TLC*GTPNYIAPEVLSK	X ;C212 ;X ;	2.28425		2
HC*SQVDSVR	C112 C112 C112 ;C112 C112 C112 ;X ;	2.28251	Q14247	3
LLGGFQETC*SK	C251 C239 ;C251 C239 ;C251 C239 ;	2.28149	Q9BVP2	3
QGFGNLPIC*MAK	C863	2.281473 64	P11586	3
HISPTAPDTLGC*YPFYK	C419 C384 ;C419 C384 ;X ;	2.28137	A0A087WW F6	3
EITAISSVPC*QLLESVLQELK	C704 C645 ;C704 C645 ;C704 C645 ;	2.279498 33	O75694	3
RAGDELAYNSSSAC*ASSR	C362 ;X ;X ;	2.279256 67	Q86Y37	3
TYITDPVSAPC*APPLQPK	C342 C364 ;X ;C201 C364 C342 C364 ;	2.27798	A0A087WZ F1	3
LC*YVGYNIEQEQQ	C221 C166 C226 ;C221 C226 ;C221 C166 C226 ;	2.27783	P61160	3
VYQPVSC*PLSDLSENVESVNEEK	X ;C506 C566 C374 C251 ;C506 C566 C374 C251 ;	2.275555		2
VTEAPC*YPGAPSTEASGQTGPQEPTSAR	C523 ;C523 ;C523 ;	2.275543 33	P40222	3
QLKEDLSSIIILLSEEDLQMLVDAPC*SDLAQELR	C154 C154 ;X ;X ;	2.272231 25	O00273	3
STFLSLMTSTASEAASYEFTTLC*IPGVIEYK	C99 C99 ;C99 C99 C99 C99 ;X ;	2.272176 67	A8MZF9	2
DTC*YSPKPSVYLSTPSSASK	C540 ;X ;X ;	2.272108 33	Q9Y5K6	3
VFFVESVC*DDPDVIAANILEVK	C158 C158 ;C158 C158 ;X ;	2.266638	O60825	2
QMFEPVSC*TFTYLLGDR	C34 C34 ;X ;C34 C34 C34 ;	2.264619 17	M0QXB5	3
SVVC*QESDLPDELLYGR	C187 ;C187 ;X ;	2.263766	Q9NS86	3
LGVENC*YFPMFVSQSALEK	C1076 ;C1076 ;X ;	2.263316 67	P07814	3
GTVLLADNVIC*PGAPDFLAHVR	C223 C173 ;C223 C173 ;C223 C173 ;	2.261457 14	P21964	3
EIITLQLGQC*GNQIGFEFWK	C13 C13 ;C13 C13 ;C13 C13 C13 C13 C13 C13 ;	2.260303 33	P23258	3
TYLLDGSC*MVEESGTLESQLEATK	X ;C2213 C2238 C2233 C2218 ;X ;	2.259178		2
AVQDLC*GWR	C428 ;C428 ;C428 ;	2.258775	Q9P258	3
LLSNMMC*QYR	C156 C160 C160 ;C156 C160 C160 ;C156 C160 C160 ;	2.258371 25	P28062	3

EALEAESAWC*YLYGTGSVAGVYLPGR	C3821 C3821 ;C3707 C3707 C3821 C3821 ;C3821 C3711 C3688 C3670 C3652 C3684 C3684 C3662 C3821 C3711 C3688 C3670 C3652 C3684 C3684 C3662 C3821 C3711 C3688 C3670 C3652 C3684 C3684 C3662 ;	2.254558 75	Q15149	3
NQC*LFTNTQCK	C68 C68 C68 C68 C93 C68 ;C68 C68 C68 C68 C93 C68 ;C68 C68 C68 C68 C93 C68 ;	2.25078	Q9UL40	3
LFNTAVC*ESK	C721 ;C721 ;C721 ;	2.250615	Q9BXJ9	3
AVLLVGLC*DSGK	X ;C73 ;C73 ;	2.250513 33		2
SQSPAASDC*SSSSSASLPSSGR	X ;C121 C179 ;X ;	2.248308 33		2
VLVTTNVC*AR	C392 C310 C393 C361 C302 ;C392 C310 C393 C361 C302 ;C392 C310 C284 C362 C393 C361 C393 C367 C398 C302 ;	2.248054	Q9NUU7	3
EESPYCVVCFETLFANTCEEK*GKPIGCDCK	X ;C43 C153 C159 ;C43 C153 C159 ;	2.24805		2
DNAAVDGLSLHLQDICPLLYSTDDAIC*SK	C874 C815 ;C874 C815 ;C874 C815 ;	2.247914 29	O75694	3
C*SGIGDNPGSETAAPR	C2675 ;C2675 ;C2675 C1317 ;	2.245875	P50851	3
MNLYSLC*K	C247 ;X ;X ;	2.24564	Q8TDX7	2
VTDGALVVDCVSGVC*VQTETVLR	C136 C136 C136 C136 ;C136 C136 C136 C136 ;C136 C136 C136 C136 ;	2.240950 56	P13639	3
NWYVQPSC*ATSGDGLYEGLTWLTSNYKS	C155 C155 C155 ;C155 C155 C155 ;C155 C155 ;	2.239960 29	P62330	3
NIC*FTVWDVGGQDK	C62 ;C62 ;X ;	2.239875 56	P84085	3
IHEGC*EEPATNALAK	C870 C874 C870 ;C870 C874 C870 ;X ;	2.239347 27	Q00610	3
IYHPNVDENGQICLPIISSENWKPC*TK	X ;C98 ;X ;	2.235621 67		2
C*GVGVSVLDDLLYAVGGHDGSSYLNSVER	C356 C167 ;C167 ;X ;	2.23439	Q9Y2M5	2
AATMSAVEAATC*R	C266 C246 C278 ;C266 C278 ;C266 C278 ;	2.233935	Q53H96	3
FSIYNLNEALNQGETVDLDMADLC*SIEQELSSIGSGNSK	C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 ;X ;X ;	2.229401 25	Q70E73	3
GSLLLDGAGAGGAGSRPC*SNR	C158 ;C158 ;X ;	2.229185	Q96IF1	2
ITSVSTGNLC*TEEQTTPPRPEAYPIPTQTYTR	C1189 C1165 C1190 C1213 C1206 C1205 C1189 C1206 C1206 ;C1189 C1165 C1190 C1213 C1206 C1205 C1189 C1206 C1206 ;X ;	2.22542	P55196	2
IIDINYPVPEAC*LSNKR	C492 ;C492 ;X ;	2.2252	P23921	2
GLYAAFDC*TATMK	C850 ;C850 ;X ;	2.225192 5	P11498	3

QVC*QLLGYGNLYLLVDHFMELYHQSVVYRK	X ;C492 ;C492 ;	2.22453		2
SQQEIC*EQLNINHIQR	C79 C79 ;C79 C79 ;X ;	2.222883 33	Q14139	2
YVAAAFPSAC*GK	C306 C172 ;C306 C172 C172 ;X ;	2.222746	Q16822	3
C*IESLIAVFQK	C13 ;C13 ;X ;	2.221187 5	P31949	3
SVLYGNLGAASC*TLQGPQFGSHG	X ;C292 C131 ;C292 C131 ;	2.218823 33		2
CPALYWLSGLTC*TEQNFISK	C27 C56 ;C27 C56 ;C27 C56 ;	2.20987	X6RA14	3
ADDTFEALC*IEPFSSPELFDVMPKQDSGSSANEQAVQ	C89	2.209488	Q15370	3
WEALHAAEPC*GPSLIR	C178 ;X ;C178 ;	2.204336 67	P53701	3
VEQLFQVMNGILAQDSAC*SQR	C3781 ;C3781 ;C3781 C3781 ;	2.204245	P78527	3
LSEEAEC*PNPSTPSK	C947 ;C947 ;X ;	2.20183	O94804	2
FQSSAVMALQEASEAYLVGLFEDTNLC*A	C111 ;M91 C111 M91 C111 ;X ;	2.201309 47	Q71DI3	3
NVTQIEPFC*LETDRR	C594 C630 ;X ;C594 C630 ;	2.194303 33	Q9ULW0	3
C*LEELVFGDVENEDALLR	C90 ;C90 C90 ;C90 ;	2.194217 5	Q9Y5J1	3
ELSIHFVPGSC*R	C17 C17 ;C17 C17 C17 ;X ;	2.190765	Q9NZL9	2
NIC*FTVWDVGGQDR	C62 C62 ;C62 C62 ;C35 C35 C62 C62 ;	2.190141 15	P18085	3
EFC*SYLQYLEYLSQNRPPPNAYELFAK	C278 ;C278 ;C278 ;	2.18497	O14744	3
C*LLIHPNPESALNEEAGR	C118 C147 ;C147 ;X ;	2.183062	Q16763	3
VLVVGAGGIGC*ELLK	X ;C30 ;C30 ;	2.179713 33		2
TATAVAHC*K	C25 ;C25 ;C25 ;	2.178814	P62249	3
GPADMASQC*WGAAAAAAAAAASGGAQQR	C336 C336 ;X ;C336 C336 ;	2.17638	O14497	3
GC*LLYPPGTGK	C170 C184 ;C170 C184 ;C170 C184 ;	2.175566 25	P62333	3
FASGGC*DNLIK	C233 ;X ;X ;	2.1753	P55735	2
C*EHCDCLQGFLTHSLGGGTGSGMGTLLISK	C87 C124 ;X ;X ;	2.17478	K7ESM5	2
ASIGAGFIYPLVGTMTMPGLPTRPC*FYDIDLDTETEQVK	C896 ;X ;C962 M885 C961 M951 C896 ;M950	2.16812	Q6UB35	3
YEAAPFLSPC*GR	C143 C98 ;C143 C98 ;C143 C98 ;	2.165941 43	H0YF29	3
AVEVAC*YVCK	C379 C390 ;C379 C390 ;C379 C390 ;	2.164312 5	P45985	3
VPFLVLEC*PNLK	C14 C14 C14 C14 C14 C14 ;C14 C14 C14 ;C14 C14 C14 ;	2.160445	Q9NRP0	3
AC*GLVASNLNLKPGECLR	X ;C3 ;X ;	2.160103 33		2
VVMALGDYMGASCHAC*IGGTNVR	C134 ; C134 ;M127	2.159903 75	P60842	3
SVHYC*PATK	C193 C148 ;C193 C158 C148 ;X ;	2.15868	P25205	2
ADVSFVLFFDC*NNEICIER	X ;C122 ;C122 C122 C122 ;	2.157006		2
HGEVC*PAGWKPGSETIIPDPAGK	X ;C245 ;C245 ;	2.156313 33		2
VPQC*PSGR	C88 ;C88 ;X ;	2.153775	Q16186	2
SPLPLGFSPVC*DPMDSK	X ;X ;C90	2.153395		2

GVLMYGPPGC*GK	C210 C179 ;C210 C179 ;C210 C179 ;	2.152307 5	P43686	3
QAQYLGMSC*DGPFPKPDHYR	X ;C393 C421 ;C393 C421 ;	2.14779		2
GALMANFLTQGGVC*CNGTR	C288 ;C288 ;X ;	2.14569	P49189	2
TPSYSISSTLNPQAPEFILGC*TASK	C142 C98 C94 ;C142 C98 C94 ;C142 C98 C94 ;	2.144536 67	Q14694	3
GSQMGTVQPIPC*LLSMPTR	C559 ;M523 C531 M551 C559 ;	2.143527 78	Q9NZB2	3
VTHLVANC*TQGEK	C221 C189 C221 C190 ;C221 C189 C221 C190 ;X ;	2.141553 33	Q9H8V3	2
AGAPDEAVCGENVSIQYC*ALLGCMDDYTTDSR	C850 C850 C850 ;C124 C850 C850 C850 ;C850 C850 C850 ;	2.140736 67	Q9BTW9	3
SDLYSSC*DR	X ;C338 ;C338 ;	2.139965		2
YMAC*CLLYR	C282 ; M313 C282 ; C322 M280 C315 M320 C282 M320 C282 ;M313 C315 M313	2.139403 33		3
IEEDVVVTDSGIELLTC*VPR	C467 C467 C467 ;C467 C467 C467 C467 ;C426 C467 C426 C467 C426 C467 C426 C467 C403 C403 C403 C403 ;	2.135614 8	P12955	3
C*TPACISFGPK	C34 ;C34 ;C34 C34 C34 ;	2.134221 67	P34932	3
TGC*TFPEKPDFH	C353 C318 C336 ;C353 C318 C336 ;C353 C318 C336 ;	2.133959 23	P55263	3
DLC*FSPGLMEASHVVNDVNEAVQLVFR	X ;C392	2.132358 33		2
LLPAITILGC*R	C389 C442 ;C389 C442 ;C389 C442 ;	2.130161 43	Q96IJ6	3
YVFNLAELAEVPMYVGIPEC*IK	C357 ;X ; C295 M165 C173 M349 C416 M287 C357 ;M408	2.129917 14	J3KN59	3
LTPGC*EAEAETEAIACFFVQQFTDMEHNR	C2359	2.128415 26	P49327	3
TDSC*DVNDCVQQVVELLQER	C207 ;C207 ;C207 ;	2.126457 5	O43252	3
STMSLPPGLLGNWGEAPAWVLLDECGLLEGEDTPHVC*WEP QAQGR	C505 C457 ;X ;X ;	2.123034	G3V1A6	2
SNPENNVGLITLANDC*EVLTTLTPTDGR	C58 C43 C58 C58 ;C58 C43 C58 C58 ;C58 C43 C58 C58 ;	2.121907 5	P55036	3
LC*PGGQLPFLLYGTEVHTDTNK	C59 ;C59 ;X ;	2.118672	O00299	3
SEHGPIFFPESGQPEC*LK	C324 C295 C247 C323 ;C324 C295 C247 C323 ;X ;	2.115815	Q96ME7	2
AFDTAGNGYC*R	C223 C223 ;C223 ;C223 ;	2.115107 14	P49327	3
C*CSGAIIVLTK	C423 ;C423 ;C423 ;	2.110504	P14618	3
GILLYGPPGC*GK	C259 C264 ;C259 C264 ;C259 C264 ;	2.10985	I3L0N3	3
ALANVNIGSLIC*NVGAGGPAPAAGAAPAGGPAPSTAAAPAEK	C61 ;C61 C61 C36 C36 ;C61 ;	2.108058 89	P05386	3
DC*IGGCSDLVSLQQSGELLTR	C79 ;C79 ;X ;	2.106246 67	P35754	3
HEC*QANGPEDLNR	X ;C118 C135 ;X ;	2.105777 14		2

INISEGNC*PER	C54 C54 C54 ;C54 C54 ;C54 C54 C54 C54 C54 C54 C54 C54 C54 C54 ;	2.105061 11	Q15365	3
SMVSPVPSPTGTISVPNSC*PASPR	C254 ; C254 ;M237	2.10459	P85037	3
ESSYAC*YYDEKR	C219 C219 C219 ;C219 C219 C219 ;X ;	2.10355	Q99538	2
LTALDYHNPAGFNC*K	C19 ;C19 ;X ;	2.100887 27	Q9Y224	3
GAFC*DLVWSDPEDVDTWAISPR	C229 C192 ;C229 C192 ;C229 C170 C192 ;	2.098702	O00743	3
VASMAQSAPSEAPSC*SPFGK	C222 M201 C212 M128 C196 ; C242 M211 C139 M185 X ;X ;M105 C116 M231	2.09798		2
AVLC*PQPTR	C178 C171 ;C178 C171 C134 ;C178 ;	2.09773	P15153	3
AHEILPNLVCC*SAK	C149 ;C149 ;C149 C130 ;	2.093887 78	P50990	3
AILQQLGLNSTC*DDSILVK	C813 C812 C801 C817 ;C813 C812 C801 C817 ;X ;	2.092096 67	P19367	2
AEGSDVANAVLDGADC*IMLSGETAK	C358	2.08821	P14618	3
FDPTQFQDC*IIQGLTETGTDLEAVAK	C39 C67 C35 C39 C67 C35 C39 C67 C35 ;C39 C67 C35 C39 C67 C35 ;C39 C67 C35 C39 C67 C35 C39 C67 C35 ;	2.084972 5	Q7L1Q6	3
IYSLSC*GK	C16 C16 ;C16 C16 C16 ;C16 C16 C16 ;	2.08364	Q9BSC4	3
AQVCQQAIEHSFAGMPC*GIMDQFISLMGQK	C212 C182 ;C212 C182 ;X ;	2.082676 67	P51570	3
IC*DGIFYTPQYLNPSVISLLK	X ;C238 C253 ;C238 C253 ;	2.08148		2
C*VYTYIQEFYR	C948 C892 C948 C892 ;C415 C948 C288 C892 C415 C948 C288 C892 ;C415 C948 C288 C892 ;	2.081134 62	A0A087WV P4	3
ASC*LYGQLPK	X ;C48 ;C48 ;	2.07991		2
DVMYIC*PFMGAVSGTLTVDK	X ;M114 C16 M20 C117 M122 C23 ; C125 M114 C117 ;M114 C117 M114 C117 M13	2.078926 67		2
HTEVPTGTC*PVDPFEAQWALENK	C467 C600 C611 ;C467 C600 C611 ;C454 C465 C563 C467 C309 C600 C611 C405 C416 C552 ;	2.077701 67	G3V3Z8	3
C*ALGWDHQEK	C246 C246 C246 ;X ;X ;	2.07656	Q14247	3
ATLEC*HPLTMTDPIEHR	C191	2.072397 5	Q99661	2
YDLLFMPPSFPFGGMENPCLTFVTPC*LLAGDR	C311 ;X ;X ;	2.06779	Q9H4A4	2
YYRPTEVDFLQGDC*TK	C336 ;C336 ;C306 C336 ;	2.06598	O60547	3
C*GMVWFSEDLSTDMIFNNFLAR	C2359	2.06214	Q14204	2
SNTGGQAAPQC*VFDHWQILPGDPFDNSSRPSQVVAETR	X ;C812 ;C812 ;	2.062082		2

IINDNATYC*R	C211 ;C211 ;C211 ;	2.05948	O00567	3
NLVFSSSATVYGNPQYLPLDEAHPTGGC*TNPYGK	C153 ;C153 ;X ;	2.059397 5	Q14376	2
DDFAYC*LNCFCDLYAK	X ;C209 C319 C325 ;X ;	2.05842		2
GGGGGPC*GFQPASR	C17 ;X ;C17 ;	2.055028 33	Q96QR8	3
AC*DLPAAVHFPDTER	X ;C181 C153 C181 C123 C181 ;X ;	2.052055		2
QQLPQTTPPSC*LK	C577 ;C577 ;X ;	2.05148	Q8IY81	2
TDC*SPIQFESAWALTNIASGTSEQTK	C133 C133 ;C133 ;C133 C133 ;	2.048615	P52292	3
TAIHTAAMDMLGGPGIESQC*R	C218 ;C218 ;X ;	2.047149 09	Q6YN16	3
GTPEQPQC*GFSNAVVQILR	C67 ;C67 C67 ;C67 C67 ;	2.042017 78	Q86SX6	3
SIQQGFC*FNILCVGETGIGK	X ;C66 C66 C51 C66 C66 ;C66 C66 C51 C66 C43 C66 ;	2.04135		2
VVNSC*HR	X ;C181 C143 C160 ;C181 C143 C160 ;	2.041155		2
GALGSPVAAAGAAMQESFGC*VVANR	X ;C22 C22 ;C22 C22 ;	2.040765		2
VLC*PSNSSQR	X ;C49 ;C49 C49 ;	2.040005		2
AAPAQSPAAPDPEASPLAEPQEQSLAPWSPQTPAPPC*SR	C100 ;C100 C100 ;X ;	2.037968 57	P83111	2
NC*LTNFHGMDLTR	C59 C96 C76 ;C96 ;C96 C59 C76 C59 ;	2.036073 5	D6RAT0	3
GFC*HLCDGQEACCVGLEAGINPTDHLITAYR	X ;C91 C129 ;X ;	2.03568		2
AVLVTGGDC*GLGHALCK	C92 ;X ;X ;	2.03389	P37059	2
LEKPNEGYLEFFVDC*SASATPEFEGR	C85 ;C85 ;C85 ;	2.033842 5	Q15024	3
DLLGLC*EQKR	C528 ;C528 ;X ;	2.031643 33	O14980	2
TC*LLIVFSK	C20 C20 C20 C20 C20 ;X ;C20 C20 C20 C20 C20 C20 ;	2.029342 5	P08134	3
IFPEVLAEQLISYGSC*QFPTLGFVVER	C244 C149 C219 ;C244 C149 C219 ;C244 C149 C219 C244 C149 C219 ;	2.025187 5	Q13472	3
HFVLDEC*DK	C197 ;C197 ;X ;	2.024816 67	O00148	2
VTEDENDPIEIPSEDDGTVLLSTVTAQFPGAC*GLR	C39 C39 C39 C39 C39 ;C39 C39 C39 C39 C39 ;C39 C39 C39 C39 C39 ;	2.024793	A0A087X26 0	3
VMAEANHFIDLSQIPC*NGK	C620 ;C620 ;X ;	2.021761 67	O15294	2
ADIIVSELLGSFADNELSPEC*LDGAQHFLKDDGVSIPEYTSFLA PISSSK	C449 C449 ;X ;C449 C449 ;	2.021217	O14744	3
LMWLFGC*PLLLDDVAR	C66 ;M61 C66 M61 C66 ;	2.013424	O15067	3
RPLNPLASGQGTSEENTFYSWLEGLC*VEK	C241 ;C241 ;C241 ;	2.013271 54	Q96HE7	3
AITIAGVPQSVTEC*VK	C158 ;C158 ;C158 ;	2.012313 75	Q15365	3
LVMSYVAAVC*GK	C129 C129 C129 ;X ;C129 C129 C129 ;	2.01183	O43795	3
KC*DLISIPK	X ;C473 C426 C420 ;C473 C426 C420 ;	2.011116 67		2
FFYDQAFAIYGGVSGLYDFGPVGC*ALK	X ;C155 ;C155 ;	2.011067 5		2
LVTSPC*CIVTSTYGTANMER	X ;C597	2.009102 5		2

VC*EEIAIPSKK	C35 C35 C35 ;C35 C35 ;X ;	2.008328 57	A0A075B71 6	3
WVYPLTPEANFTDSTTQSC*THSR	C335 C335 C335 C335 ;C335 C335 ;X ;	2.005405	E9PC74	2
GSC*STEVEKETQEK	X ;C69 ;X ;	2.00301		2
FMLVLASNLPEQFDC*AINSR	C415 C461 ;X ;X ;	1.999553 33	Q5T9A4	3
YTIVVSATASDAAPLQYLAPYSGC*SMGEYFR	C294	1.999302 86	P25705	3
SCTVSINFGPC*FK	X ;C487 C442 C581 ;C487 C442 C177 C43 C581 ;	1.99741		2
ICELLPEAAINDVYLAPLLQC*LIEGLSAEPR	C455 ;X ;X ;	1.99682	Q14974	2
EVDLYALGLILAELLHVC*DTAFETSK	X ;C444 C485 ;C444 C485 ;	1.99614		2
SEVEEVDFAGWLC*K	C287 C384 ;X ;X ;	1.995586 67	G5E9C7	3
IIC*SAGLSLLAEER	C107 C195 ;C107 C195 C107 C195 ;C107 C195 C107 C195 ;	1.99423	S4R338	3
TNTAVRPYC*FIEFDNFIQR	C111 C111 C111 C111 ;C111 C111 C111 C111 ;C111 C111 C111 C111 ;	1.994178	C9JDJ8	3
C*IPYAVLLEALALR	C110 C110 C110 C110 C110 ;C110 C110 C110 C110 C110 ;C110 C110 C110 C110 C110 ;	1.992642	F5H248	3
LIGPNC*PGVINPGECK	C172 ;C172 ;X ;	1.99088	P53597	2
DVQIGDIVTVGEC*RPLSK	C131 ;C131 ;C131 C131 ;	1.98576	P62280	3
VAAALENTHLLEVVNQC*LSAR	C158 ;C158 ;C158 ;	1.984778	Q9Y3D0	3
YADLTEDQLPSC*ESLKDIAR	C153 ;C153 ;C153 ;	1.97457	P18669	3
EVIQSDSLWLVEFYAPWC*GHCQR	C55 C103 C107 C60 C52 ;C55 C103 C107 C60 C52 ;C55 C103 C107 C60 C52 ;	1.97082	Q15084	3
PC*SEETPAISPSKR	C3 C3 ;C3 C3 ;C3 ;	1.970662 5	H0YNJ9	3
MVSDINNAWGC*LEQVEK	C370 C370 C370 C370 ;C370 C370 C370 C370 ;X ;	1.969372 73	P12814	3
QQFTDDQLLVLDLLVSPC*YYA	C1840 C1840 C1840 ;C1840 C1840 ;X ;	1.968006	Q14997	2
APTYFC*GQTLTFR	X ;X ;C313 C309 ;	1.9667		2
DIPDGATVLVGGFGLC*GIPENLIDALLK	C67 ;C67 C67 ;X ;	1.965744	P55809	2
FLLADNLYC*K	C113 C108 ;C113 C108 ;C113 C108 ;	1.963518	P61758	3
EITSLDTENIDEILNNADVALVNFYADWC*R	C58 C58 ;C58 C58 ;C58 ;	1.960728 75	Q9BS26	3
AIVDC*GFEHPSEVQHECIPQAILGMDVLCQAK	C62 C62 C63 C63 C63 C63 C63 C63 ;C62 C63 C63 C63 ;X ;	1.954926 25	O00148	3
NQSFC*PTVNLDK	C70 C70 ;C70 C70 ;C70 C70 ;	1.954824 35	E9PLL6	3
KIWC*FGPDGTGPNILTDITK	X ;C651 ;X ;	1.954378 33		2
SYC*AEIAHNVSSK	C96 C96 C114 ;C96 C96 C114 ;C96 C96 C114 ;	1.954071 82	D3YTB1	3

IC*PVEFNPNFVAR	C33 C33 ;C33 C33 ;C33 C33 ;	1.951103 33	Q9UI30	3
IC*DQWDALGSLTHSR	C499 ;C499 ;X ;	1.950540 71	O43707	3
TVPFC*STFAAFFTR	C394 ;C386 ;C394 C386 ;	1.946097 78	P29401	3
GVLLYGPPGC*GK	C137 ;C137 ;C137 C137 ;	1.946	Q8NBU5	3
LC*PQFLQLASANTAR	C264 C264 C264 ;C264 C264 C264 ;C264 C264 C264 ;	1.945972	O95630	3
YLC*DEQKELQALYALQALVVTLEQPPNLLR	X ;C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429 ;X ;	1.93801		2
SVPC*ESNEANEANEANK	C16 ;X ;X ;	1.9365	Q9NS25	2
ISAFGYLEC*SAK	C159 C159 C159 ;C159 C159 C159 ;C159 C159 C159 ;	1.935456 67	P08134	3
SC*TDSELLHPHELLSQEFLLLTLEQK	C48 C10 C10 ;C48 C10 C10 C48 C10 C10 ;C48 C10 C10 ;	1.934974	Q9BVC5	3
NMQITILTC*R	C169 ;C169 ;C169 C148 ;	1.933752	O95456	3
QNSDFLC*QMDLLQEFYETTLEALKDAK	C130 ;C130 C130 ;C130 ;	1.932844	P61201	3
AQQEQLLLKQLQQQQPPSQLC*TAPASSHER	C385 C527 C296 C385 C527 C345 ;C385 C527 C296 C385 C527 C345 C385 C527 C296 C385 C527 C345 ;X ;	1.931884	Q9Y2D5	3
FHADSVK	X ;C25 ;C25 ;	1.928385		2
LGPGRPLPTFPTSEC*TSDEVPDTR	C73 C73 ;C73 C73 ;C73 C73 ;	1.92745	Q8TDD1	3
LC*LNICVGESGDR	C20 C21 C19 ;X ;C20 C21 C19 C20 C21 C19 ;	1.923967 78	P62913	3
LTVIDTPGFGDHINNENC*WQPIMK	C357 C211 C356 C368 C375 ;C357 C211 C356 C368 C375 ;X ;	1.921702 5	Q9UHD8	2
HSSSC*LPLPEFVDNTQVPSYCLNAR	C89 C89 ;C89 C89 C89 C89 ;X ;	1.917423 33	Q9ULP9	2
GFEVVYMTPEIDYEC*VQQLK	C521 ;M513 C521 ;	1.917369 23	P08238	3
MMYSPIC*LTQDEFHPFIEALLPHVR	C7 ; C7 ;M2 X ;M2 C7 M2	1.917192		2
SQEATEAAPSC*VGDMADTPR	C230 C84 C229 C241 C248 ;C230 C84 C229 C241 C248 ;X ;	1.915696	Q9UHD8	3
SLHDALC*VVK	C397 ;X ;C397 ;	1.90814	P17987	2
GC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374 C374 ;C374 ;X ;	1.905958	E9PBS1	3
LNISFPATGC*QK	C12 ;C12 ;C12 C12 ;	1.901858 75	P62753	3
ARQYPWGVVQVENENHC*DFVK	C293 C293 C293 C293 C268 C268 C278 C268 C260 ;C293 C293 C278 C293 C293 C268 C268 C278 C268 C260 C268 ;X ;	1.901577 14	Q9P0V9	2
FNLPHEYQGISQDQLIC*SLQR	C170 ;C170 ;X ;	1.900763 33	Q96M11	2

SIC*TTVLELLDK	C94 ;X ;X ;	1.897953 33	P27348	3
VLFPGCTPPAC*LLDGLVR	C440 C414 ;C440 C414 ;C440 C414 ;	1.897891 67	Q66K74	3
VVYGGGAAEISC*ALAVSQEADKCPTLEQYAMR	C429 C391 C408 ;X ;X ;	1.897526 67	P48643	2
GQYRPSDLLC*PETYVWVPIEQCLPSLENSK	C426 C422 C429 C333 C429 C314 ;C422 C333 C429 ;X ;	1.89333	H0Y5C2	2
GLIAAIC*AGPTALLAHEIGFGSK	C106 C67 ;X ;X ;	1.890442 22	Q99497	3
AWVWNTHADFADEC*PKPELLAIR	C209 C82 C132 C132 C132 C82 ;C209 C82 C132 C132 C132 C82 ;C209 C82 C132 C132 C132 C82 ;	1.889294 29	F6WQW2	3
GLYGIKDDVFLSVPC*ILGQNGISDLVK	C293 C322 ;C293 C322 C293 C322 ;C293 C322 ;	1.886068 5	P00338	3
DC*FLELAPDFVGDILWEHLEILQK	C156 C112 ;C112 C112 C112 ;C156 C112 C156 C112 ;	1.88548	P14921	3
SCYDLSC*HAR	C471 ;C471 C471 ;C471 ;	1.882211 43	P41250	3
LEPAGPAC*PEGGR	X ;C595 ;C595 ;	1.881676 67		2
QPAIMPGQSYGLEDDGSC*SYKDFSESER	C413 C472 C413 C472 ;C413 C413 C472 C472 ;C413 C472 ;	1.881448 33	M0QXS5	3
C*ATPVIIDEILPSKK	C145 C145 ;C145 C145 ;C145 C145 ;	1.879683 33	Q9ULW0	3
DAANC*WTSLESEYAADPWVQDQMQR	C99	1.878352 73	Q8WVJ2	3
VLMVEEPSMNLEWLGYC*PPPYHTFEFPVYMK	C498 ;X ;X ;	1.877576 67	P00395	2
SGDAAIVEMVPGKPMC*VESFSQYPLGR	C411 ;M410 C411 ;	1.877392	Q05639	3
LEVDAIVNAANSSLLGGGGVDGC*IHR	C186 ;C186 ;C186 ;	1.877173 33	Q9BQ69	3
EEHLC*TQR	X ;C208 C270 C212 C233 C217 ;C208 C270 C212 C233 C217 ;	1.877143 33		2
QEEVC*VIDALLADIR	X ;C971 C971 ;C971 C971 ;	1.874285		2
AIVDCGFEHPSEVQHEC*IPQAILGMDVLCQAK	C74 C75 C75 C75 ;X ;X ;	1.873883 75	O00148	3
STLTDSLVC*K	C41 ;C41 ;C41 ;	1.872726 67	P13639	3
TIAEC*LADELINAAC	C193 C172 C172 ;C193 ;C193 C172 C172 ;	1.871367	M0R0R2	3
AAAGELQEDSGLC*VLAR	X ;C172 ;C172 ;	1.870957 5		2
NEEDIGAGDQGLMFGYATDETEEC*MPLTIVLAHK	C149 C149 ;C149 ;X ;	1.870918 33	P31153	3
LSNNYYC*TR	C55 ;C55 ;X ;	1.87026	O95182	2
SDGLQWSAEQPC*NPSKPK	C185 C193 C215 ;C185 C193 C102 C215 C125 ;X ;	1.86936	Q9NUQ6	2
C*TGGEVGATSALAPK	C17 ;C17 ;C17 C17 ;	1.869139	P30050	3
SSTETC*YSAIPK	C2436 C2477 ;C2436 C2477 ;C2436 C2532 C2460 C2477 C2490 C2501 ;	1.867738	O75369	3

KAVVVC*PK	C588 ;C607 C588 ;C607 C588 ;	1.866704	Q00839	3
ASTASPC*NNNINAATAVALQEPR	C598 C605 C599 C528 C528 ;C598 C605 C599 C528 C528 ;C598 C605 C599 C528 C528 ;	1.8633575	Q71RC2	3
TGAAC*LPFYSAAGSIPSGVSGR	C29 ;C29 ;C29 ;	1.859816	Q12849	3
TQSPC*FGDDDDPAK	X ;C324 C344 ;X ;	1.859355		2
IGLIQFC*LSAPK	C252 ;C252 C222 ;C252 C222 ;	1.8574175	P50991	3
VVPC*LVTPVTGR	X ;C991 C991 ;X ;	1.85705		2
TDFLSPMC*IGEVAVHSAEITYTSK	X ;C117 ;X ;	1.8548225		2
YFAGNLASGGAAGATSLC*FVYPLDFAR	C129 C129 C129 C129 ;C129 C129 C129 C129 ;C129 C129 C129 C129 ;	1.85103688	P05141	3
AYGGSMC*AK	C83 ;C83 ;C83 ;	1.845515	P49207	3
NMSVHLSPC*FR	C116 ; C116 ;M109	1.84453667	P62280	3
RPTEIC*ADPQFIIGGATR	C82 ;C82 ;C82 ;	1.839382	P17655	3
SVPLC*ILYEK	X ;C545 ;C545 ;	1.83891		2
TENTIFSSTTLPRPGDPGAPPLPDLQLEEEGTC*ANSSEMFLPLR	C215 ;X ;X ;	1.838754	O95999	3
IADISQVYTQNAEMRPLGCC*MILIGIDEEQGPQVYK	X ;C137	1.83819		2
C*TKEEHLCTQR	C226 C201 C136 C263 C205 C226 C210 ;C201 C263 C205 C226 C210 ;X ;	1.8340525	P06753	2
MSYLTAMGADYLSC*DSR	C891 C945 C891 C918 C914 C914 C914 ;C891 C945 C891 C918 C914 C914 C914 ;X ;	1.831335	Q9UDY2	2
LSEAAC*EEDSASEGLGELFLDGLSTENPHGAR	C238 ;C238 ;X ;	1.83088625	O95801	3
LVSSPC*CIVTSTYGWTANMER	C589	1.82966	P08238	3
VGAPTIPDSC*LPLGMSQEDNQLK	C338 C349 C274 ;C338 C349 C274 ;X ;	1.82904333	Q92989	2
ELANSPDC*PQMCAK	X ;C189 C187 C187 C187 ;C189 C187 C187 C187 ;	1.82828333		2
DQLQELC*IPQDLVGD LASVVFSGRPLLD SVAQQGAWLPHVA DFR	C117 C63 C117 ;C117 C63 C117 ;X ;	1.82621667	Q9GZQ3	2
AFC*GFEDPR	X ;C4380 C4494 ;X ;	1.82572		2
SNGLGPVMSGNTAYPVISC*PPLTPDWGVQDVWSSLR	C350 ; C350 M339 C350 ;M339	1.82429	E9PBS1	3
YLC*AGAVDFYNNLENFNVDKEAGER	C214 ;C214 ;X ;	1.82174	P13807	2
ADHQPLTEASYVNLPTIALC*NTDSPLR	C148 C153 C148 ;C148 C153 C148 ;C148 C153 C148 ;	1.813326	C9J9K3	3
LPACVVDC*GTGYTK	C12 ;X ;C12 ;	1.811326	P61158	3
C*PQDQGWNAEITLQMVQYK	X ;C266	1.80961		2
C*PGESLINPGFK	C180 ;C180 ;C180 ;	1.80929167	Q9BUH6	3
ANGEDC*LNQVCRR	C26 ;C26 ;C26 ;	1.80448667	Q8WY64	3

IIAIANYVC*R	C581 C525 C637 C581 ;C581 C525 C637 C581 ;C581 C95 C525 C637 C581 ;	1.803533 33	Q16666	3
IYFGSNIPNMFVDSSC*ALK	C310 ;X ;X ;	1.802025	O75477	2
SDLYEVIQSTLDGLLC*TSLPVWLENHTALTVMASK	C322	1.79956	P22102	2
HC*GYLALVSALACGADWVFLPESPPEEGWEEQMCVK	X ;C221	1.798776 67		2
ADPDGPEAQAEAC*SGER	C18 C18 C18 ;C18 C18 C18 C18 ;X ;	1.798061 25	D6RCB9	3
NTPSFLIAC*NK	C179 ;C179 ;X ;	1.795886 67	Q9Y5M8	2
GIDQC*IPLFVEAALER	C757 ;X ;X ;	1.795405	O95373	2
MLSC*AGADR	C105 ; C105 M102 C105 ;M102	1.792676 67	X1WI28	3
HYLDQLNHILGILGSPSQEDLNC*I	X ;C254 C271 C271 C271 C271 C203 ;X ;	1.792465		2
IPDWC*SLNPPLEMMFDVGK	C388 ;C388 C388 ;X ;	1.791162 5	Q9NZ32	2
VHTIVISVQHDEEVC*LDEMR	C214 ;C214 C214 ;X ;	1.791128 89	P31153	2
AYSFC*GTVEYMAPEVVNR	C207 C223 C232 C223 C131 C229 ;C229 C207 C223 C232 C223 C131 ;C207 C223 C232 C223 C131 C229 ;	1.791077 5	Q15418	3
NNAFPC*QVNIK	C712 ;C675 C712 ;C675 C712 ;	1.78876	Q9NQW6	3
ILGLQVQAEHC*SIQDAQAAMR	C210 C382 C210 C210 C382 C210 ;C210 C382 C210 ;X ;	1.787903 33	Q9GZR2	2
YC*VRPNSGIIDPGSTVTVSVMLQPFDYDPNEK	C60 C60 ;C60 C60 C60 C60 ;C60 C60 ;	1.787734 21	Q9P0L0	3
C*EFQDAYVLLSEKK	C237 ;C237 ;X ;	1.781107 62	P10809	3
ALANSLAC*QGK	C393 C339 ;X ;X ;	1.78109	P04075	3
GTLTLC*PYHSDR	C779 ;C779 ;C779 ;	1.780307	Q13200	3
FMYC*TPFTLDGR	C1913 ;X ; C1944 M1931 C1935 M1911 C1902 M1931 C1904 M1942 C1933 M1933 X ;M1900 C1933 M1902	1.778494		2
ALNSASTSLPTSC*PGSEPVPHQQGQPALELK	C502 C142 ;X ;X ;	1.77453	Q9Y6A5	2
IGFPETEEEELEEIASENSDC*IFPSAPDVK	C340 C353 ;C340 C353 ;C340 C353 ;	1.774448 42	Q9Y3F4	3
DIDFLKEEEHDC*FLEEIMTK	C173	1.773945	P12268	2
METYC*SSGSTDTSPVIDAVTHALTATTPYTR	C288 ;C288 ;C201 C288 ;	1.770434 38	Q02338	3
GMYGIENEVFLSLPC*ILNAR	C294 M281 C294 ; C294 ;M281	1.770176 11	P07195	3
FFACAPNYSYAALCEC*LR	C513 ;C513 ;C513 ;	1.76962	Q96RS6	3
VC*QGIGMVNR	X ;C133 ;X ;	1.76822		2
EPFDLGEPEQSNGGFPC*TTAPK	C213 C277 C229 ;C213 C277 C229 ;C213 C277 C229 ;	1.76751	Q99961	3
LMGLLSDPELGPAAADGFSLMSDC*TDVLTR	C848 C869 C848 C869 ;C848 C869 ;X ;	1.76423	Q96T76	2
TLSGGRPGAGPELELGTAGSPGGAPPEAAPGDC*TR	C457 C408 ;C457 C408 ;X ;	1.763475	Q8WYP3	2

NC*NDFQYESK	C112 ;C112 ;X ;	1.76326	Q04917	2
GAVEKGEELSC*EER	C38 C38 ;C38 ;C38 ;	1.762667 5	P31947	3
VGTGEPCC*DWVGDGAGHFVK	C158 C171 ;C158 C171 ;X ;	1.761815	P52209	2
VFIMDSC*DELIPEYLNFR	C366 ;M363 C366 ;	1.761800 56	P08238	3
LANVQLLDTGGFVHSDGAISC*HDMFDLHLTGGGYAK	C188 ;X ;X ;	1.760666	P68402	3
IQLEHHISPDPDC*QK	C356 ;C356 ;X ;	1.756793 33	Q9NZN4	2
SVC*TEAGMFAIR	C389 ;X ;X ;	1.753466 67	P35998	3
C*PNPEEGESVLELSLR	C303 ;C303 ;X ;	1.752505	Q6PCE3	2
VPAFEGDDGFC*VFESNAIAYYSNEELR	C118 C68 C118 C68 C118 C68 ;C118 C68 C118 C68 C118 C68 ;C118 C68 C118 C68 C118 C68 ;	1.747644 8	P26641	3
LTNTYCLVAIGGSENFYSVFEGELSDTIPVVHASIAGC*R	C56 ;C56 ;C56 ;	1.7444	P56537	3
YLGIPGDKEYCISSDDLFLSPYC*PGK	C239 C189 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 ;C239 C288 C189 C339 C339 C241 C189 C304 C233 ;X ;	1.742986	A0A087WS W9	2
IAVAAQNC*YK	C67 C104 ;X ;X ;	1.74281	P60174	2
LPILIFPEGTC*INNTSVMMFK	C306 C325 ;C306 C325 ;C306 ;	1.742157 5	Q53EU6	3
SCYYLPC*FVTSKNECLWTDMLSNFGYPGYQSK	C155 ;C155 ;X ;	1.74108	P35625	2
APVPSTC*SSTFPEELSPSHQAK	C160 C160 C160 C160 ;C160 C160 C160 C160 ;C160 C160 C160 C160 ;	1.737936 67	Q14980	3
PGHLQEGFGC*VVTNRFDQLFDESDFEVLK	C11 C11 C11 C11 ;C11 C11 C11 C11 C11 C11 C11 C11 ;X ;	1.737277 5	Q8NC51	3
NAFAC*FDEEATGTIQEDYLR	C114 C108 C109 C114 C108 C109 C114 C108 C109 ;C114 C108 C109 C114 C108 C109 C114 C108 C109 ;C114 C108 C109 C114 C108 C109 ;	1.73466	J3QRS3	3
ASVFGGSC*FQK	C276 ;C179 C276 C209 ;C179 C276 C209 ;	1.734385	O60701	3
LECVENPC*R	C77 C77 C77 C77 C113 ;C77 C77 C77 C77 C113 C77 C77 C77 C77 C113 ;C77 C77 C77 C77 C113 ;	1.731958	H7BZ11	3
SSYFWLCNALDVYC*PVQWEYGR	X ;C478 ;C478 ;	1.731785		2
VC*TLAIIDPGDSDIIR	C92 C92 ;C92 C92 ;X ;	1.727347 5	P62888	3
AHTVLAASC*AR	C104 ;C104 ;C104 ;	1.724798	Q8WUY1	3
GC*TATLGNFAK	C229 ;X ;C229 ;	1.723006	P15880	3
EEFASTC*PDDEEIELAYEQVAK	C223 ;C223 C223 C223 ;C223 ;	1.722118 89	O00299	3

VDVFREDLC*TK	C22 ;C22 ;X ;	1.716125	Q06323	2
VNQAIWLLC*TGAR	C176 C155 C155 ;C176 ;C176 C155 C155 ;	1.713062 5	M0R0R2	3
GEASEDLC*EMALDPELLLRDDGEEEFAGAK	C644 C644 ;C644 C644 ;X ;	1.71304	Q8N163	2
FLYEC*PWR	X ;C622 ;C622 ;	1.71207		2
FSGDLDDQTC*R	X ;C245 ;X ;	1.711395		2
KGDEC*ELLGHSK	C290 ;C290 ;X ;	1.709155	P49411	2
GNHEC*ASINR	C126 C127 C138 ;C126 C136 C127 C127 C127 C138 C127 ;C136 C127 C127 C127 C138 C127 C126 ;	1.709122	P62140	3
TVPVGGVVKSVAWNPPAVC*LVAAVEDSVLLLNPALGDR	X ;C469 ;C469 ;	1.704695		2
KAQC*PIVER	C87 C66 C66 ;C87 ;C87 C66 C66 C87 C66 C66 ;	1.703375	M0R0R2	3
SEFYANEAC*K	C339 C381 C401 C339 ;C339 C381 C401 C339 ;X ;	1.70227	Q86TX2	2
NVQLLSQFVSPFTGC*IYGR	C90 ;C90 ;C90 ;	1.695512	Q9Y3D5	3
TVLCGTC*GQPADK	C479 C492 C561 C591 ;C479 C492 C561 C187 C591 ;C479 C492 C561 C187 C591 ;	1.695116	P02545	3
TLSGMESYC*VR	X ;M446 C420 ;X ; C450 M416	1.69368		2
TDVLVLSCL*DLITDVALHEVVDLFR	C106 C106 C106 ;C106 C106 C106 C106 C106 C106 ;C106 C106 C106 ;	1.693342 86	Q9NR50	3
STSQGFC*FNILCVGETGIGK	X ;C41 C41 C51 C41 C33 ;C41 C41 C51 C41 C41 C41 C51 C41 ;	1.692274		2
TTEEQVQASTPC*PR	X ;C108 ;C108 ;	1.690685		2
YGIIC*MEDLIHEIYTVGK	C186 C146 ;C186 C186 ;C186 C146 ;	1.689461 17	P18124	3
YQEAAPNVANNTGPHAASC*FGAK	C564 C295 C517 C517 C295 C517 C564 C618 C618 C295 C618 C517 C618 C295 C564 C564 C618 ;C564 C517 C564 C618 C618 C517 C618 C564 C618 C517 C517 C564 C618 C517 C618 C517 C564 C564 C618 C564 C564 C618 C618 ;X ;	1.68761	O60716	2
NLSDLIDLVPSLC*EDLLSSVDQPLK	C36 C65 C36 C24 C62 ;X ;C36 C65 C36 C24 C62 ;	1.686982 31	P47756	3
IEC*SDNGDGTCSVSYLPTKPEYFVNILFEEVHIPGSPFK	C1087 C1087 ;X ;X ;	1.683015	O75369	3
WLSDEC*TNAVVNFLSR	C350 C380 C345 ;C350 C380 C345 ;X ;	1.678923 64	A0A0C4DG A2	3
VLSSCPQAGEATLLAPSTEAGGLTC*ASAPQGTLR	C109 C107 ;C109 C107 ;X ;	1.678275	O15446	2

C*FIVGADNVGSK	C27 ;X ;C27 ;	1.671831 43	P05388	3
VFIMDNC*EELIPEYLNFR	C496 ;M371 C496 ; C374 M493	1.67099	P07900	3
SYC*NDQSTGDIK	C106 ;C106 ;C106 ;	1.666721 43	P00492	3
NFNYHILSPC*DLSNYTDLAMSTVK	C461	1.664851 33	G5E9W3	3
HEASDFPC*R	C32 ;C32 ;X ;	1.6633	P18031	2
AVLFC*LSEDKK	C22 C39 C77 C39 ;C22 C39 C77 C39 C22 C39 C77 C39 ;X ;	1.65564	G3V1A4	2
SSSSVTTSETQPC*TPSSSDYDLQR	C103 C334 ;C334 ;C334 ;	1.653991 67	K7EM16	3
IYHPNINSNGSIC*LDILR	X ;C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 ;C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 ;	1.645191 67		2
FQYEC*GNYSGAAEYLYFFR	C141 ;C141 C141 ;C141 ;	1.643885	P60228	3
YNFFTGC*PK	C364 ;X ;C364 ;	1.642062 5	Q99832	3
KGAVEC*CPNCR	C149 ;X ;X ;	1.641714	P31689	3
IECSDNGDGTG*SVSYLPTKPEYFVNILFEEVHIPGSPFK	C1095 C1095 ;C1095 C1095 ;C1095 C1095 C1095 C1095 C1095 C1095 ;	1.641603 33	O75369	3
AEISFVLC*K	X ;C89 C37 C89 C89 ;C89 C37 C89 C89 ;	1.64046		2
VQILPEC*VLPSTMSAVQLESLNK	C188 C187 C184 ;C188 C187 C184 ;X ;	1.640415	Q96SW2	2
ATYDKLC*K	C59 ;C59 ;X ;	1.64034	P62851	2
ITSC*IFQLLQEAGIK	C63 C63 ;C63 ;C63 ;	1.639911 43	E9PBS1	3
SLITSDKGFVTMTLESLEEIQDVSC*AWK	C603 ;X ;X ;	1.639461 82	Q9BQ39	3
KPTDGASSSNC*VTDISHLVR	C369 C710 C708 ;C369 C710 C708 ;C369 C644 C710 C708 C138 C342 ;	1.635856 25	P49321	3
MGIGLGENAAGPC*NWDEADIGPWAK	C498 M503 C516 ;X ; C498 M485 C516 ;M485	1.632995	Q5H909	2
ELETVC*NDVLSLLDK	C97 ;C97 ;C97 ;	1.632845	Q04917	3
AVAGASAMFAGLQDLGVANGEDLKETLTNC*TEPLK	C71 ;C71 ;X ;	1.63227	A0A0X1KG 71	2
VPTANVSVVDLTC*R	C247 ;C247 C247 ;C247 C247 C247 ;	1.630775 45	P04406	3
VALALC*LGKPADVYLIDEPSAYLDSEQR	C475 ;C475 ;C475 ;	1.63043	P61221	3
SVLLCGIEAQAC*ILNTTLDLLDR	C114 C114 C114 ;C114 C114 C114 C114 C114 C114 ;C114 C114 C114 ;	1.629238 33	K7ENV7	3
AIALFTPAC*GLSDPAHVESLQEK	C316 ;C316 ;X ;	1.62903	P10588	2
LILC*PLMAAVTYIDEK	X ;C544 ;C544 ;	1.62262		2
TMVNLALENAC*DEATYQLGLDMEELIEEDAGLNGGLGR	C109 C109 ;C109 C109 ;X ;	1.621348 18	P11217	3

GYDFC*QVLQWFAER	C175 C175 C175 C175 ;C175 C175 ;C175 C175 C175 C175 C175 C175 ;	1.620074 62	Q9H223	3
WPISYC*R	C238 ;X ;X ;	1.619603 33	Q8NBX0	3
IVFVPGC*SIPLTIVK	X ;C369 ;C369 ;	1.61921		2
VWAVLPSSPEAC*GAASLQER	C170 ;C170 ;C170 ;	1.616506 67	Q5T440	3
GHSSDSNPAIC*R	C31 ;X ;C31 C31 C31 ;	1.616074	Q5JTH9	3
VEEEDDAEHVLLALTMLCLTEGAKDEC*NVVEVVAR	C79 ;X ;X ;	1.613967 5	O75607	2
NDAPEEAGEGC*VAAILGETEVQQFLR	C57 C57 C57 C57 ;C57 C57 ;X ;	1.613182	Q96DC7	3
C*NNVLYIR	X ;C66 ;C66 ;	1.610525		2
SGQAGYVPC*NILGEARPELAGAPFEQAGQK	C543 ;C543 ;C543 C559 ;	1.607840 91	Q9H6S3	3
LVSSPCC*IVTSTYGWTANMER	C590	1.606060 77	P08238	3
AGGPPQVAGAQAAC*SEDR	X ;X ;C35 C35 C35 ;	1.605852 5		2
C*PICVPCGLR	C44 ;C44 ;X ;	1.605516 67	Q9HAV4	2
C*SPIGVYTS GK	C354 C397 ;C354 C397 ;C354 C397 ;	1.60521	B1AHB1	3
VGVGPGSVC*TTR	C186 ;C186 ;X ;	1.602032 5	P36959	3
AQLNIGNVLPVGTMP EGTIVCC*LEEKPGDR	C115 ; X ;X ;M107	1.59799		2
LVTSPCC*IVTSTYGWTANMER	C598 C720 C598 C720 ;C598 C720 C598 C720 ;C598 C720 ;	1.597167 78	P07900	3
NFPAIGGTGPTSDTGWGC*MLR	X ;C74	1.59658		2
APPSSGAPPASTAQAPC*GQAAYGQFGQGDVQNGPSSTVQMQR	C78 ;C78 C78 ;X ;	1.59536	P53992	3
ILAAALTEC*HR	C169 ;C169 ;X ;	1.59436	P46060	2
C*MQLTDFILK	C54 C54 ;C54 C54 ;X ;	1.593007 14	E7EPB3	3
LEGDLTGPSVDVEVPDVELEC*PDAK	C2162 ;C2162 ;X ;	1.592037 27	Q09666	3
AITIAGIPQSIIEC*VK	X ;C158 ;X ;	1.590476 67		2
YGAVDPLLALLAVPDMSSLAC*GYLR	C223 ; C223 ;X ;M218	1.590193 85	P52292	3
GLYGGSSYVDFLC*CVHK	X ;C652 C1022 C1021 ;C652 C1022 C1021 ;	1.589945		2
HSMNPF C*EIAVEEAVR	C133 C42 C42 ;C133 C42 C42 ;X ;	1.589720 67	P38117	3
HLSSC*AAPAPL TSAER	C141 ;C141 ;X ;	1.585666 67	Q6IBS0	3
EGTQASEGYFSQSQEEFAQSEELC*AK	C659 C615 C613 C659 C615 C613 C659 C615 C613 ;C659 C615 C613 C659 C615 C613 C659 C615 C613 ;C659 C615 C613 C659 C615 C613 ;	1.584076	Q16643	3
DAFEHIVTQFSSVPVSVSDSYDIYNAC*EK	C287 ;C287 ;X ;	1.579175 68	P43490	3
EGGVQLLLTIVDTPGFGDAVDNSNC*WQPVIDYIDSK	C126 C126 C106 C125 C126 C126 C106 C125 ;C126	1.578439 66	Q16181	3

	C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 ;C126 C126 C106 C125 C126 C126 C106 C125 ;			
VC*ENIPIVLCGNK	C129 C130 C112 C108 ;C108 ;C108 ;	1.5699	B5MDF5	3
KC*SASNR	X ;C17 C17 C17 ;X ;	1.565985		2
ITNSLTVLC*SEK	X ;C86 C158 C207 C153 C66 ;C86 C158 C207 C153 C66 ;	1.563836 67		2
ADEASELAC*PTPK	X ;X ;C2202 ;	1.56367		2
LLAC*IASR	C174 ;C174 C174 ;C174 ;	1.561202	P62241	3
IIDLEEADEIEDIQQEITVLSQC*DSSVYTK	C77 C77 C77 C77 ;C77 C77 C77 C77 C77 C77 C77 C77 ;X ;	1.55798	Q9P289	3
SFGAEEHEVC*R	C353 C353 C353 C353 ;C353 C353 C353 C353 ;X ;	1.557605	X5CMH5	2
FC*ACPEEAHALELR	C64 C64 C64 ;C64 C64 ;X ;	1.555045	Q9NP81	2
GPFVEAEVDPVDLEC*PDAK	C1833 ;C1833 ;C1833 ;	1.552337 5	Q09666	3
TTISFALEEYLVSHAIPC*YSLDGDNVR	C73 ;X ;C73 C73 ;	1.550836	O95340	3
SVAWAPSGNLLATC*SR	C123 ;C123 ;C123 ;	1.548775 71	O76071	3
NLQTCMEVLEALYDGS LGDC*K	C817 ;C817 ;X ;	1.547205	Q9BXJ9	2
SMKAC*VSETLSMLGQHFGQLLELALTR	X ;C168 C168 C215 C168 C168 C167 ;C168 C168 C215 C168 C168 C167 ;	1.547015		2
SIKDTIC*NQDER	C509 C462 C456 ;C509 C462 C456 ;C509 C462 C456 ;	1.543876 67	Q9ULV4	3
WC*EYGLTFTEK	C76 C76 ;C76 C76 C76 C76 ;C76 C76 C76 C76 ;	1.542539 5	A0A0A0MR 02	3
THEAEIVEGENHTYC*IR	C2191 C2172 C2159 ;C2159 C2199 C2191 C2172 C2159 C2199 C2191 C2172 ;X ;	1.539622	P21333	2
SGTIC*SSELPGAFEAAGFHLNEHLYNMIIR	X ;C190	1.53954		2
VRPSTGNSASTPQSQC*LPSEIEVK	C131 ;C131 C131 C131 C131 ;X ;	1.53851	Q9UJX3	2
SDQGVVEGPGGTGGSGSSPNPVTNIC*QAADK	C150 C340 C340 ;X ;C150 C340 C340 ;	1.53777	A0A0G2JK R7	2
YLEVSEPDIEC*CGALEYYDK	C146 C180 C195 ;C146 C180 C195 ;C146 C180 C195 ;	1.537435	O15371	3
C*AGPTPEAELQALAR	C52 ;C52 ;C52 ;	1.536286	Q15050	3
IIQFQATPC*PK	C298 C300 C313 C278 C299 ;C298 C300 C224 C313 C278 C299 C238 ;C298 C300 C224 C313 C278 C299 C238 ;	1.531896 67	Q06330	3
FGVIC*LEDLIHEIAFP GK	C184 ;C184 ;C184 ;	1.531128 18	Q6DK11	3
YNITHPMVNDADASLWQELEVSC*WPTLVILGPR	C161 ;X ; X ;M145	1.530295		2

NVC*TEAGMFAIR	X ;C347 C361 ;X ;	1.52415		2
ALNALC*DGLIDELNQALK	C62 ;C62 ;C62 ;	1.523929	P30084	3
C*QLEINFNTLQTK	X ;C351 C332 C332 C332 C332 ;C332 C332 C332 C332 C351 ;	1.523926 67		2
WGSFFIDSVLGLENTEDSLVYTWSC*K	C399 ;C399 ;X ;	1.52182	Q5TFE4	2
TDSCDVND*VQQVVELLQER	C212 ;C212 ;C212 ;	1.521762 5	O43252	3
IC*DGVMFGAGIR	C457 ;C457 ;C457 ;	1.520416	Q9Y512	3
ERPTPSLNNNC*TTSEDSLVLYNR	C744 ;C744 ;X ;	1.51906	P07814	2
DWQGFLELYLQNSPEAC*DYGL	C237 ;C209 C237 ;X ;	1.517935 88	P78417	3
TPTKPSLNNQLVSVDC*K	C991 ;C991 ;X ;	1.512895	Q9NZV1	2
TDVC*VFAAQEDLETMQAFQVFNK	X ;C100	1.512013 33		2
NYLPAINGIVFLVDC*ADHSR	X ;C102 C102 ;C102 C102 C102 C102 ;	1.511215		2
GLC*ESVVEADLVEALEK	X ;C79 C84 C84 C84 C79 C84 ;C79 C84 C79 C23 C19 C84 C84 C79 C84 C84 C79 C84 C79 C23 C19 C84 C84 C79 C84 C84 ;	1.511187 5		2
ENVNVEEMFNC*ITELVLR	C163 ;X ;X ;	1.509395	Q15286	2
AVSTGVQAGIPMPC*FTTALSFYDGYR	C422 ;M407 C422 M407 C409 M420 C422 ;	1.50938	P52209	3
VILITPTPLC*ETAWEEQCIQGCK	C24 C117 C137 C24 C117 C137 ;C24 C117 C137 C24 C117 C137 ;C112 C24 C24 C117 C24 C137 ;	1.505830 71	Q2TAA2	3
YLAEVAC*GDDRK	C134 ;C134 ;C134 ;	1.503525 83	P27348	3
ETVYC*LNDDETEVLKEDIQGF	C296 ;C296 C296 ;X ;	1.499875 71	P13010	2
NPVSQC*MR	C50 C50 C50 C50 C50 ;C50 C50 C50 C50 C50 ;X ;	1.499178	A0A087X26 0	3
AATEQEPLGTEQTLDAEEEQEESEEAAC*GSK	X ;C37 ;C37 ;	1.499046 67		2
DLAVVTQSAEAPAEEDLLGPNC*YYDK	C310 C230 C310 ;C310 C230 C310 ;C310 C230 C310 ;	1.49846	Q9BX40	3
IVNLAC*K	C226 ;X ;C226 ;	1.496455	O00116	2
GNFTLPEVAEC*FDEITYVELQKEEAQK	C629 ;X ;X ;	1.494518 33	Q00839	3
IC*ELLPEAAINDVYLAPLLQCLIEGLSAEPR	C436 ;C291 C436 ;X ;	1.49124	Q14974	2
PMC*IPPSYADLGK	C13 ;M12 C13 M12 C13 ;	1.483305 83	A0A0A0MR 02	3
STGVVNIPAAEC*LDEYEDDEAGQKER	C119 C173 ;C119 C173 ;C119 C173 ;	1.482944 55	H0Y116	3
LDVGNFSWGSECC*TR	C72 ;C72 ;X ;	1.48032	P62241	2
AAC*LESAQEPAGAWGNK	C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 ;C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53	1.4801	C9JEJ8	3

	C53 C53 ;C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 ;			
GPQLFHMDPSGTFVQC*DAR	C107 M156 C165 ;M98 C165 ;X ;	1.476403 33	P28066	2
TDVNKIEEFLEEVLC*PPK	C100 ;C100 ;C100 ;	1.474346 36	Q9Y696	3
TTVSMALLEEYLVLC*HGIPCYTLGDGNIR	C78 ;X ; X ;M70	1.473285		2
VC*NFLASQVPFPSR	C214 ;C214 ;C214 ;	1.465213 33	Q99714	3
TYAIC*GAIR	C56 C56 C56 ;C56 C56 C56 ;C56 C56 C56 ;	1.460211 43	Q9BYK1	3
VC*ALLSCTSHK	C299 ;C299 ;C299 ;	1.459352 5	P15121	3
QMEKDETVSDC*SPHIANIGR	C206 C235 C206 C194 C232 ;X ;X ;	1.457768 57	P47756	3
LICC*DILDVLDK	C76 C98 ;C76 C98 ;C76 C98 ;	1.451213	P62258	3
EYLQCLHFDC*LLDGGVINLSVPIVLTATHEDKER	C295 ;C295 ;X ;	1.4505	O43252	2
ECESVLVNDFFLVAC*LEDFIENAR	X ;C328 C328 ;X ;	1.449621 43		2
TVFAEHISDEC*K	C114 ;C114 ;C114 ;	1.446251 67	P39023	3
EGLLLWC*QR	C154 C154 C154 C154 C173 ;C173 C154 C154 C154 C154 ;X ;	1.445353 33	P12814	2
VVYGGGAAEISCALAVSQEADKC*PTLEQYAMR	C440 C402 C419 ;X ;X ;	1.444762	P48643	2
NC*IVLIDSTPYR	C100 ;C100 ;C100 ;	1.440311 67	P62241	3
C*QNEQLQTAVTQQVSQIQQHK	C678 ;X ;X ;	1.438333 33	O60763	3
DQELYFFHELSPGSC*FFLPK	X ;C376 C343 ;C376 C343 ;	1.437675		2
GVPGAIVNVSSQC*SQR	C138 ;C138 ;C138 ;	1.437488 57	Q7Z4W1	3
LIDFLEC*GK	C234 C234 ;C234 C234 ;X ;	1.43329	P17844	2
GVLFVPGAFTPGC*SK	C100 C100 C48 ;C100 C100 C48 ;X ;	1.43228	P30044	2
TGC*VDLTITNLEGAFAVMPEDITK	C391 C325 ;C391 C325 C325 ;X ;	1.43061	Q9Y679	2
QVLMGPYPNDTC*PEVGFFDVLGNDR	X ;X ;C129 ;	1.426677 14		2
FMADC*PHTIGVEFGTR	C40 ; C40 ;X ;M37	1.426586 67	P61106	3
IFVGNVSAAC*TSQELR	C90 ;C90 ;C90 C90 C90 C90 C90 C90 C90 C90 C90 ;	1.420672 5	Q96PK6	3
YIC*YAEQTR	X ;C201 C276 ;X ;	1.41933		2
YAGLSTC*FR	X ;C300 C300 ;C300 C300 ;	1.41796		2
FC*MNGAALCALGK	C143 C99 ;C99 ;C143 C99 ;	1.415377 5	P14921	3
EAVFPFQPGSVAEVC*ITFDQANLTVK	X ;C89 ;C89 C89 C89 C89 ;	1.412743 08		2
DGTVLC*ELINALYPEGQAPVKK	C84 C63 C63 ;C84 C63 C63 ;X ;	1.411457 5	P37802	3
AHVVPC*FDASK	C1157 C1130 C1157 ;C1157 C1157 C1157 C1130 ;C1130 C1157 C1157 C1130 ;	1.408518	P21333	3

SC*SGVEFSTSGHAYTDTGK	X ;C36 ;C36 ;	1.407883 33		2
LEGDLTGPSVGVVEVPDVELEC*PDAK	C1900 ;C1900 ;C1900 ;	1.40605	Q09666	3
HDDSSDNFC*EADDIQSPEAEYVDLLNPER	C166 C166 ;C166 C166 ;C166 ;	1.402670 59	Q96HE7	3
VEQNSEPC*AGSSSESDLQTVFK	X ;C260 ;C260 C184 ;	1.402635		2
TWYVQATC*ATQGTGLYEGLDWLSNELSK	C159 C159 C159 ;C159 C159 ;C132 C132 C132 C132 C159 C159 C159 C159 ;	1.393883 33	P18085	3
ICDGCIIIVDAVEGVC*PQTQAVLR	X ;C124 C124 ;C73 C124 ;	1.389252 5		2
SLGTPEDGMAVC*MFMQNTLTR	C52 C127 C133 ;X ;X ;	1.388613 33	Q9NTX5	2
DSC*SCLTAAEVHPAGR	X ;C852 C584 ;C843 C852 C584 ;	1.38822		2
ISPVYHFVFTNESNETDYVPLPIIDSVEC*NK	C342 C384 C254 ;C342 C384 C254 ;C342 C384 C254 ;	1.386751 67	Q6ZMK1	3
C*ANLFEALVGTLK	X ;C39 ;C39 ;	1.38484		2
EEQVISLGPQVAEGENVFGVC*HIFASFNDTFVHVTDLSGK	C31 C31 ;C31 C31 ;C31 C31 ;	1.382276 67	E5RH77	3
IVDAVIQEHQPSVLLLELGAYC*GYS AVR	X ;C119 C69 ;X ;	1.381865		2
FPEELTQTFMSC*NLITGMFQR	C339 ;M387 C339 ; C339 M387 C389 M337	1.378576 43	P26641	3
YFTQGNC*VNLTEALSLYEEQLGR	C318 ;C265 C318 C265 C318 ;C265 C318 ;	1.376694 29	P52788	3
MC*LFAGFQR	X ;M593 C594 M574 C575 ;X ;	1.374945		2
IVLAGC*VPQAQPR	C138 C68 ;C138 C68 ;C138 C68 ;	1.37246	Q5VV42	3
LELLVGSPASC*MELELYGVDDKFYSK	C51 ;C51 ;X ;	1.37232	Q99426	3
DTGTVHLNELGNTQNFMLLC*PR	C126 ;X ; C126 ;M123	1.36859	Q2NL82	3
AGAVVAVPTDTLYGLACAASC*SAALR	C99 ;C99 ;C99 C99 ;	1.367619	Q86U90	3
ATC*IGNNSAAAVSMLK	C163 C163 C163 ;X ;X ;	1.363785	P25789	2
LAFEIIDQYFSGDDIDEDPC*LIPEATQGGTYNFDPTANLQTK	C495 ;X ;X ;	1.36123	O00505	2
AGALQC*SPSDAYTKK	C1939 ;C1939 ;X ;	1.3586	Q9Y490	2
SC*SGVEFSTSGSSNTDTGK	C47 C47 ;C47 C47 ;C47 C47 ;	1.3584	A0A0A0MR 02	3
AKC*ELSSSVQTDINLPYLTMDSGPK	C317	1.357125 67	P38646	3
DTQTSITDSC*AVYR	X ;C100 ;C100 ;	1.35549		2
ELEAVC*QDVLSLLDNYLIK	C97 ;C97 C97 ;C97 C97 ;	1.348607	P61981	3
DC*ALTVALR	C172 C202 C71 ;C172 C202 C71 ;X ;	1.34324	Q8N6M0	2
RGPEVTSQGVQTSSPAC*K	C732 C813 C270 C603 C627 C892 C627 C31 C892 C892 ;C732 C813 C627 C892 C627 C892 C892 ;C732 C813 C270 C603 C627 C892 C627 C31 C892 C892 ;	1.341271 43	V9GY86	3
ASFENNCEIGC*FAK	C15 ;C15 ;C15 ;	1.334606 67	P56537	3

VQEAPIDEHWIIEC*NDGVFQR	C91 ;X ;X ;	1.333862	Q14353	3
LEYC*EALAMLR	C349 ;C349 ;X ;	1.33147	P14868	2
SQPPFTMC*FR	C87 C91 C91 C57 C91 C91 ;C87 C91 C91 C57 C91 C91 ;X ;	1.320735	H7C282	2
VGIGPGSVC*TTR	C204 ;X ;C186 C204 C204 C229 ;	1.320446	H0YNJ6	3
AEFYFQPWAQEAVC*R	X ;C451 C492 C290 C92 ;X ;	1.320143 33		2
GMGESC*FEDLLPWLMTLTYEQSSVDR	C1692 ;X ;X ;	1.319296 67	Q92616	2
NLAVAMC*SR	C55 C55 C43 C55 C55 C55 C55 ;C55 C55 C43 C55 C55 C55 C55 ;C55 C55 C43 C55 C55 C55 C55 ;	1.319132 5	E2QRC7	3
HPSGGSNGATC*STQVSMLTR	X ;X ;C220	1.31896		2
TC*FETFPDKVAIQLNDTHPALSIPELMR	C326 ;C326 ;X ;	1.311854 62	P11216	2
LVIVGDGAC*GK	C16 C16 C16 C16 ;C16 C16 C16 C16 ;C16 C16 C16 C16 C16 C16 ;	1.310591 43	P08134	3
YNLSPSIFFC*ATPPDDGNLCR	C120 ;C120 ;X ;	1.30875	Q00796	2
WNTDNTLGTEIAIEDQIC*QGLK	C103 C103 ;C103 C103 ;C103 C103 ;	1.30616	A0A0A0MR 02	3
SESGGLGVSMVEYVLS SSPGDSC*LR	X ;C270 C234 C234 C234 C251 C234 ;C270 C234 C234 C234 C251 C234 ;	1.299143 33		2
C*QDVSAGSLQELALLTGIISK	C1662 ;C1662 ;X ;	1.298335	Q92621	2
QYPWGVAEVENGEHC*DFTILR	C280 C280 C260 C279 ;C280 C280 C260 C279 ;C280 C280 C260 C279 ;	1.297775	Q16181	3
C*LSAAEEK	X ;C145 C207 C170 C170 C154 ;C145 C207 C170 C170 C154 ;	1.290585		2
C*EGINISGNFYR	X ;C37 ;C37 ;	1.289908		2
ELHGQNPVVTPC*NK	C159 C159 C159 C159 ;C159 C159 C159 C159 ;X ;	1.288686 67	Q16630	2
VGLPIGQGGFGC*YLA DMNSES SVGSDAPCVVK	C50 ;C50 C50 ;X ;	1.287364	Q99986	3
SPVPLTPPGC*VALDTR	X ;C173 C198 ;C173 C198 ;	1.285025		2
VAWSPC*GNYLASASFDATTCIWK	C72 ;C72 ;C72 C72 ;	1.281968 57	O76071	3
GEFYVIEYAAC*DATYNEIVTFER	C50 C99 C86 C99 C50 C99 C86 C99 ;C50 C99 C86 C99 ;C50 C99 C86 C99 C50 C99 C86 C99 ;	1.281002 22	E9PFF5	3
VLQFNEVGANAVTPMTPENFTSC*GFMQQIQK	C79 ;X ;X ;	1.28073	P05120	2
DVALSSGSAC*TSASLEPSYVLR	X ;C330 C321 C381 ;C330 C321 C41 C20 C381 ;	1.27943		2
IC*LAEAFLTADTILNLTQNISEGLVVYPK	C340 ;C340 ;C340 ;	1.279086 67	P30566	3
MWEGVMEFLLANHPLDCPICDQGGEC*DLQDQSMFMGNDR	C26 ;X ;X ;	1.27758	P28331	2

FFFDVGC*NK	C238 ;X ;X ;	1.277175	Q96QR8	2
GTEAGQVGEPIPTGEAGPSC*SSASDKLPR	C241 ;C241 ;X ;	1.274691 43	O15355	3
LTESPC*ALVASQYGWSGNMER	X ;C645	1.27164		2
VDLNSNGFIC*DYELHELK	C33 ;C33 ;X ;	1.269944 76	P13797	3
KPASFMTSIC*DER	C845 M831 C845 ;M841 C835 ;M841 C845 ;	1.268463 75	P53396	3
C*FSIDNPGYEPEVAVHPGDTVAIGGVDGNVR	C438 ;C438 C438 ;X ;	1.268053 33	O75083	2
VTAVIPC*FPYAR	X ;C91 C91 C91 ;C91 C91 C91 ;	1.266318		2
GELSGHFEDLLLAIVNC*VR	X ;C207 C246 ;C207 C246 ;	1.26418		2
AVLEALGSC*LNNK	C68 C68 ;C68 C68 ;C68 ;	1.257492 5	P34896	3
EDLNC*QEEEDPMNK	C139 C139 ;C139 C139 ;X ;	1.256618	K7ENA8	3
IIDLEEADEIEDIQQEITVLSQC*DSPYVTK	C89 C77 C77 ;C89 C77 C77 ;X ;	1.254241 25	Q9Y6E0	3
GFGFVC*FSSPEEATK	C339 C339 C339 C339 C339 ;C314 C339 C339 C339 ;C339 C339 C339 C339 C314 C339 C307 C339 ;	1.246654	P11940	3
SVYLTGC*GK	C516 ;C516 ;C516 ;	1.243066 67	Q9NXV6	3
C*DQDAQNPLSAGLQGAQLMETVELLQAK	X ;C240	1.239385 71		2
VSDTVVEPYNATLSIHLVENTDETYC*IDNEALYDICFR	C548 C201 ;C548 ;C548 C201 C548 C201 ;	1.238768 57	A0A0B4J26 9	3
DGVADSTVISSMPC*LLMELR	C57 C57 C57 C57 C57 ;C57 C57 C57 C57 C57 ;C57 C57 C57 C57 C57 ;	1.236584	Q96B23	3
GLAPLHWADDDGNPTEQYPLNPNGSPGGVAGICSC*DGR	C1287 ;C1287 ;X ;	1.23285	O15067	2
LILADALC*YAHTFNPK	C345 C376 ;C345 C376 ;C345 C376 ;	1.219167 5	P28838	3
LIHDGC*LLWK	C523 C478 C450 C477 ;C523 C478 C450 C477 ;X ;	1.21309	V9GYM8	2
WTQTLSELDLAVPFC*VNFR	C188 C188 ;C188 C188 ;C188 C188 ;	1.212523	Q9Y266	3
FSHQGVQLIDFSPC*ER	C384 C384 ;C384 C384 ;C384 C384 ;	1.206957 5	P55884	3
QPRPEEAQEFQAEFVSTPELAAQSDFIVVAC*SLTPATEGLCNK	C216 C216 ;C216 C216 ;X ;	1.206515	Q9UBQ7	2
ALDVGSGGILTAC*FAR	C153 C95 C153 C95 ;X ;X ;	1.205745	A0A0A0MR J6	2
TWYVQATC*ATQGTGLYDGLDWSHELK	C159 ;C159 ;C159 C159 ;	1.20494	P84085	3
EDC*VDINEC*SLSDNLRCR	X ;C1197 C1171 C1165 C1171 ;X ; C1204 C1165 C1203 C1198	1.20271		2
LNEDMAC*SVAGITSDANVLTNELR	C74 C74 C74 ;C74 C74 C74 C74 C74 ;C74 C74 C74 C74 C43 C50 ;	1.198502	P25789	3
VIEINPYLLGTMAGGAADC*SFWER	C111 ; C111 ;X ;M104	1.194463 08	P28074	3

YLLQYQEPIPCQLVTALC*DIK	X ;C115 C115 C115 C115 C115 ;C115 C115 C115 C115 C84 C91 ;	1.192405		2
NWYIQATC*ATSGDGLYEGLDWLSNQLR	C159 ;C159 C159 ;X ;	1.19098	P84077	2
GLYDGPVC*EVSVTPK	C468 C504 ;C468 C504 ;C468 C504 ;	1.18855	Q16555	3
C*YEMASHLR	C128	1.187367 5	P07737	2
C*MPTFQFFK	C73	1.180848 18	P10599	3
AC*QSIYPLHDFVFR	C164 C201 C181 C145 ;C201 ;C201 C164 C181 C164 ;	1.17614	D6RAT0	3
C*CFLCMVCR	C33 C33 C33 ;X ;X ;	1.169985	F8VQR7	2
ALVVDNGSGMC*K	C18 ;M16 C17 M17 C18 ; X ;M16	1.163515 71		2
QPPWC*DPLGPFVVGEDLDPFGPR	C185 C185 ;C185 C185 ;C185 C185 ;	1.161767 5	Q5QPM7	3
C*AAVDVEPPSK	C670 C688 ;C670 C688 ;X ;	1.155275	Q15020	2
IDC*FSEVPTSVFGEK	C384 ;C384 ;C384 ;	1.153462	O00567	3
TNLSTVSDC*VHQVVELLQEQNIVPYTIK	X ;C202 ;X ;	1.152086 67		2
LNEC*VDHTPK	X ;C164 C192 ;X ;	1.150735		2
C*APSAGSPAAAVGR	X ;C54 ;C54 ;	1.1486		2
SFNVIDIKPANMEELTEVITAAEFHPNSC*NTFVYSSSK	C239 C249 ;C239 C249 ;X ;	1.147582 5	P63151	2
EVLEHPWITANSSKPSNC*QNK	C393 ;C393 ;X ;	1.14487	O14965	2
STSILSVNQSNESDCIFIC*VMTGKSGR	X ;C190 C226 ;C190 C226 ;	1.140245		2
GPAVGIDLGTTYSC*VGVFQHGK	C17 C17 ;C17 C17 ;C17 C17 C17 C17 C17 C17 ;	1.138476 67	P11142	3
KLDTNSDGLDFSEFLNLIGGLAMAC*HDSFLK	C91 ;M89 C91 ; C91 M89	1.137196 14	P31949	3
LHIVQVC*K	X ;C191 ;C191 ;	1.135463 33		2
SYIEGYVPSQADVAVFEAVSSPPPADLC*HALR	C50 ;X ;C50 C50 C50 ;	1.127951	P24534	3
GGC*PGGEATLSQPPPR	C22 ;C22 ;X ;	1.12733	P20290	3
DSEDNPQTLIFSATC*PHWVFNVAK	C310 C378 ;C310 C378 C310 C378 ;C310 C378 ;	1.121997 5	Q9NR30	3
LSLQNC*LTGAGCGVLSSTLR	X ;C96 ;C96 ;	1.11996		2
SC*LDYQTQETK	X ;C110 C110 ;C110 C110 ;	1.10927		2
LLSALC*PEEPPVHSSAQIVSK	C334 C334 C334 ;C334 C334 C334 C334 C334 C334 ;C334 C334 C334 C334 C334 C334 ;	1.10845	Q9NR50	3
AGKPVIC*ATQMLESNIK	C326 C326 ;X ;X ;	1.10677	P14618	3
C*ATSKPAFFAEK	C270 ;C270 ;X ;	1.102796	P04083	2
QSELEPVVSLVDVLEEDELENEAC*AVLGGSDSEK	C35 C35 ;C35 ;X ;	1.09846	Q8N806	2
VPLASQGLGPGSTVLLVVDKC*DEPLSILVR	C70 C70 C78 ;C70 C70 C78 ;C70 C70 C78 ;	1.097185	A0A096LPJ 4	3
LLAVNNVC*LEEVTHEEAVTALK	C378 C345 C345 C378 C378 C378	1.08987	Q12959	2

	C327 C345 C378 ;C378 C345 C345 C378 C378 C378 C327 C327 C345 C378 ;X ;			
AAQLC*GAGMAAVDK	X ;X ;C834	1.082162 5		2
EC*ESVLVNDFFLVACLEDFIENAR	C315 ;X ;X ;	1.079965	P60228	2
SCCSC*CPVGCCK	C36 C36 C36 C37 C36 C36 ;C36 C36 C36 C37 C36 C36 ;X ;	1.078596 67	P02795	2
GYNYATC*LEGALK	C553 ;C553 ;C553 ;	1.07774	O94808	3
ILLLC*VGEAGDTVQFAEYIQQ	X ;C46 ;C46 ;	1.069847 5		2
ETNDDNYGPGPSLRPPNVAC*WR	C179 C177 C179 C177 C177 C177 C177 ;X ;X ;	1.0677	E7EPN9	2
AEQC*EEEEAMTPRPTK	C19	1.065795	Q86SG4	2
DIC*NDVLSLLEK	X ;C94 ;C94 ;	1.064655		2
C*ELENCQPFVETLHGK	C100 ;C100 ;C100 ;	1.05592	Q06203	3
LTEQSNTPLLPSFEIGAWTEDDVYC*WVQQLVR	X ;C346 ;C346 ;	1.05297		2
DEFTNTC*PSDKEVEIAYSDDAK	C234 ;C234 ;X ;	1.049837 5	Q9Y696	3
YLEC*SALTQR	X ;C157 C150 C113 C157 C157 C113 ;C157 C157 C157 ;	1.04955		2
INEIVYFLPFC*HSELIQLVVK	X ;C577 C371 C542 C513 C572 C527 ;C577 C371 C542 C513 C572 C527 ;	1.043877 5		2
SPFLC*FGDVLLGASR	C51 C51 ;C51 C51 ;X ;	1.037225	Q8IZT6	2
ATVAPEDVSEVIFGHVLAAGC*GQNPVR	C65 C65 ;C65 C65 C65 ;C65 C65 C65 ;	1.033989 26	Q9BWD1	3
C*PENAFFLDHVR	C783 C778 C767 C802 ;C783 C778 C767 C802 ;X ;	1.032982 86	O00159	3
DKEPEVVFIGDSLVLQMLHQC*EIWR	C55 C55 ;C55 C55 C55 ;X ;	1.03164	Q15102	3
SIGLPDVHSGYGFAIGNMAAFDMNDPEAVVSPGGVGFDFINCGV R	C122 ;X ;X ;	1.02912	Q9Y310	2
GDLENAFLNLVQC*IQNKPLYFADR	C280 C262 ;C280 C280 ;C280 C262 ;	1.020465 88	P07355	3
WASGLTPAQNC*PR	C115 C115 C115 C115 C115 C115 C115 C115 C58 ;C115 C115 C115 C115 C115 C115 C115 C115 C58 ;X ;	1.015972	A2AB90	3
LNLPINIIGLAPLC*ENMPSGK	X ;C304 C335 ;X ;	1.01351		2
AFGGPGAGC*ISEGR	C24 ;X ;X ;	1.006815	Q9H479	2
SSGQSAQLLSHEPGDPPC*LR	C522 C399 C522 ;C522 C399 C522 ;C522 C399 ;	1.006696	H3BVG0	3
QIPAITC*IQSQWR	C781 ;C781 ;X ;	0.99345	P46940	2
VC*NYGLTFTQK	C65 ;C65 ;C65 ;	0.990768	Q9Y277	3
ESLNASIVDAINQAADC*WGIR	C167 ;C167 ;C121 C167 ;	0.983430 83	Q9UJZ1	3
TNC*NVAVINVGAPAAGMNAAVR	C411 ;C411 ;X ;	0.98298	Q01813	2

VDVEC*PDVNIEGPEGK	C2806 ;C2806 ;C2806 ;	0.981325 56	Q09666	3
NQFVSLGSMC*FPEAVLLSDER	C834 C595 ;X ;X ;	0.97998	Q2KHR3	2
SGETEDTFIADLVVGLC*TGQIK	X ;C389 C389 ;C296 C389 ;	0.971253 33		2
LC*LISTFLEDGIR	C32 C32 C32 ;X ;X ;	0.96019	Q5T8U5	2
SSGC*DVNLPGVNVK	C5502 ;C5502 ;C5502 ;	0.953112 22	Q09666	3
NSLIELPDDYSC*LLNQASHFR	C1603 ;C1603 ;X ;	0.94534	Q8IWW7	2
YSNVIFLEVDVDDCQDVASEC*EVK	X ;C69 ;X ;	0.94223		2
C*ELLYEGPPDDEAAMGIK	C369 ;C369 ;X ;	0.94169	P13639	2
GEVPC*TVTSASPLEEATLSELK	C141 ;X ;C141 C37 ;	0.929157 5	P48047	3
LTGAGGGGC*GITLLKPGLEQPEVEATK	C287 C339 ;C287 C339 ;X ;	0.9234	F5H8H2	2
LYGIQAFK*K	X ;C108 ;C108 ;	0.90802		2
AC*GNFGIPCELR	C288 C288 ;C288 ;C288 ;	0.900105	E9PBS1	3
ITGGMEAEVGEFPWQVSIQARSEPFC*GGSILNK	X ;C74 C93 C93 ;C74 C93 C93 ;	0.898945		2
VSDHSNRMHCSGLAWHPDIATQLVLC*SEDDR	X ;C232 C231 C232 C231 C232 ;C232 C231 C232 C231 C232 ;	0.89276		2
LIC*CDILDVLDKHLIPAANTGESK	C75 C97 ;X ;X ;	0.887228 57	P62258	3
YLLQYQEPIPC*EQLVTALCDIK	X ;C107 C107 C107 C107 C107 ;C107 C107 C107 C107 C76 C83 ;	0.881582 5		2
GEETPVIVGSALC*ALEGRDPELGLK	C222 ;C222 ;C222 ;	0.88137	P49411	3
DC*LESITFQVKTEFASC*WNSQEFIQTLSDDFISVR	C1244 ;X ;C1223 C52 C1183 C1223 C1238 C37 C1198 C1229 C1238 C1183 C1244 ;	0.86946	Q8IWB6	2
LNGGLGTSMGC*K	C132 C123 C112 C123 ;C132 C123 C112 C123 ;C132 C123 C112 C123 ;	0.867823 33	E7EUC7	3
YTC*GEAPDYDR	X ;C39 ;C39 ;	0.864445		2
EKIEAELQDIC*NDVLELLDK	C96 C94 ;C96 C94 ;X ;	0.859605	P31946	3
TIIP LISQC*TPK	C212 C105 ;C212 C170 C105 ;X ;	0.856433 33	P40926	2
AMELLSAC*QGPAR	C91 ;M98 C104 M85 C91 ;X ;	0.84887	O60551	2
TDPSEQVEGNC*EIVNELIAASTQK	X ;C612 ;C612 ;	0.845435		2
GISC*MNTTLESSEPFK	X ;C242 ;X ;	0.841366 67		2
LSLDGQNIYNAC*CTLR	C220 C250 C281 C250 C250 ;C250 ;X ;	0.838252 5	A6NLN1	2
EQSDFC*PWYIGLPIFYLDNLPNFR	C414 C413 C414 C413 ;C414 C413 C276 ;X ;	0.837135	P15170	2
LEGIPAYIVPQTAPDC*KK	C113 ;C113 C113 ;X ;	0.830275	Q9GZT4	2
LESLQSMEMAHSGSLRDELCLDFPCDSPEK	X ;C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 ;C388 C183	0.825304		2

	C259 C389 C394 C386 C321 C270 ;			
EYTAC*ELMNIYK	C195 ;C195 ;X ;	0.82379	Q9NSD9	2
HFLIEC*TPK	C1001 C1241 ;C1001 C1241 ;X ;	0.8217	Q68CZ2	2
ISEVFDC*WFESGSMPIYAQVHYPPFENKR	C416	0.818898 67	J3KR24	2
AQNTWGC*GNSLR	C410 C423 C522 C522 ;C410 C423 C522 C148 C522 ;X ;	0.815572 5	P02545	3
GLGTDEDSLIEIIC*SR	C151 C133 C151 C133 ;C151 C151 ;C151 C133 ;	0.808943 75	P07355	3
NTMINLGLQNAC*DEAIYQLGLDIEELEEEIEDAGLNGGLGR	C109 ;X ;X ; C109 M100	0.79988	P06737	2
C*AAVAAAAAAGEPR	C42 ;C42 ;X ;	0.79101	P23677	2
ELADYLC*EDAQQLSLEDTFSTMK	C898 C898 C898 C898 ;C898 C898 ;X ;	0.78242	Q27J81	3
ELVVNC*CTEFIHLSSEANEICNK	X ;C42 ;C42 ;	0.78084		2
AC*FQVGTSEEMK	C717 C718 C729 C728 C717 ;C717 C718 C729 C728 C717 ;X ;	0.78065	P35658	2
PEMVVGWYHSHPGFGC*WLSGVDINTQQSFEALSER	C120 ;M107 C120 ;X ;	0.77676	O00487	2
AVLLASDAQEC*TLEEVVER	C332 C332 C332 C332 ;C332 C332 ;C332 C332 ;	0.768154	Q27J81	3
TCDGVQC*AFEELVEK	X ;C160 C189 ;X ;	0.761245		2
EALEHLC*TYEK	C214 ;C214 ;X ;	0.757945	Q9BXJ9	2
SSC*LFCLPSFK	C29 ;X ;C29 ;	0.75754	Q9UNA3	2
LSLLEEYGCC*K	C573 ;C573 ;X ;	0.75537	P53350	2
CENC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C474 C127 ;C474 ;C474 C127 ;	0.75526	A0A0B4J26 9	3
DNTIEHLLPLFLAQLKDEEC*PEVR	C377 ;X ;X ;	0.75299	P30153	3
QC*TGLQGFLVFHSGGGTGSFTSLLMER	C129	0.745322 26		3
VLVDELDSLSPILFC*QIADLANEDTPQLYVACGR	C410 ;X ;X ;	0.744453 33	Q15393	2
QASVGAGIPYSVPAWSCQMIC*GSGLK	C92 ;X ; X ;M90	0.739667 5		2
APPTAC*YAGAAPAPSQVK	C225 C248 C50 ;C225 C248 ;X ;	0.735968 57	P17676	3
FC*DNVWTFVLNDVEFR	C68 ;C68 C68 ;C68 ;	0.73418	P52657	3
IEGC*IIGFDEYMNVLDDAEIHSK	C46 ;C46 C46 ;X ;	0.734066 15	P62304	3
SAC*DTVDTWLDDTAK	C4216 ;C4216 ;C4216 ;	0.70328	Q14204	3
AQLNIGNVLPVGTMPPEGTIVC*CLEEKPGDR	C114 M107 C114 ;X ;M107 C114 ;M107	0.701355		2
C*NPGFSSFSFSEIITPTETCDDINECATPSK	C44 C44 C44 ;C44 C44 C44 C44 C44 C44 ;X ;	0.68067	P48960	2
THEDLYIIPINC*DR	C104 C204 ;C204 ;C204 ;	0.6694	P22692	3
AQLSGLQLQPC*LYK	X ;C451 C135 ;C451 C135 ;	0.657462 5		2
DC*QIAHGAAQFLR	C1018 C1086 C1093 ;C1018 C1086 C1093 ;X ;	0.65314	C9J4M6	3
DGFYEAELC*PDR	C116 ;C105 C105 C92 C105 C105 C105	0.652313 33	E9PKH5	3

	C116 ;C105 C105 C92 C105 C105 C105 C116 ;			
SGEEEEAQPLGAPEEEPTDGDASSHC*LWVDEFAPR	C475 C280 C280 C308 ;C475 C280 C280 C308 ;X ;	0.650765	A0A0D9SF 58	2
STYC*LLNGLTDRDLCELNECPLDPGGYFIINGSEK	C86 C154 C161 ;C86 C154 C161 ;X ;	0.64916	C9J4M6	2
LEDVENLGC*R	C329 ;C329 C329 ;C329 C329 ;	0.638793 33	Q9UJX3	3
GLPWSC*SADEVQR	C22 C22 C22 ;C22 C22 C22 ;X ;	0.61785	G8JLB6	2
LQEALDAEMLEDEAGGGGAGPGGAC*K	C57 C57 ;C57 C57 ;C57 C57 ;	0.617091 67	H3BQZ7	3
AAGELGIAVCNIPSAAVEETADSTIC*HILNLYR	C140 C208 C680 ;C140 C208 C680 ;C140 C208 C680 ;	0.604356 67	P56545	3
LTMPSPMPEYLNVHYIC*ESASR	C387 C406 ;C387 C406 ;X ;	0.594935	P49116	2
GEFYVIEYAAC*DATYNEIVTIER	X ;C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 ;C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 C99 ;	0.58856		2
LDLNGNTLGEEGC*EQLQEVLGFNMAK	X ;C338	0.58074		2
NDYQLIC*IQDGYLSLLTETGEVR	X ;C93 ;C93 C74 ;	0.577635		2
NC*GCLGASPNEQLQEENLK	C32 ;X ;X ;	0.57414	P54136	3
AVMALQEAC*EAYLVGLFEDTNLCAIHAHAK	C97 ;X ;C97 ;M91	0.5736	P68431	3
KLTAGIAC*AQGLVTEVFPDSTFQK	X ;C282 C312 C277 ;X ;	0.573135		2
MSDSADKPIDNDAEGVWSPDIEQSFQEALAIYPPC*GR	C53 ; C53 M4 X ;M19 C53 M19 C38 M19 C53 M110 C144 ;M19	0.570386 67		2
VTDDLVC*LVIK	X ;C48 ;X ;	0.554753 33		2
GIQTEATFDLSAQEFVIDTPC*ENAEK	C123 C123 C123 C123 ;C123 C123 C123 C123 C123 C123 C123 C123 ;X ;	0.534326 67	Q9NUZ1	2
VVEPYNATLSIHQLVENTDETYC*IDNEALYDIC*FR	C211 ; C548 C558 C201 C211 ;C548 C558 ;C548 C211 C548	0.52311	A0A0B4J26 9	3
LPCIFIC*ENNR	C222 C260 ;C229 C222 C260 ;X ;	0.486315	P08559	2
GC*GTVLLSGPR	X ;X ;C134 C134 C105 C136 C113 ;	0.485766 67		2
DLGGIVLANACGPC*IGQWDRK	X ;C451 C476 ;X ;	0.480205		2
DILFPYIEENVKEYLQTHWEEEEEC*QQDV	C52 C52 ;C52 C52 ;X ;	0.471465	Q9UHY7	2
LHTDSRTC*LAINSCALGNGGCQHHCVQLTITR	X ;C95 C207 C200 ;C95 C207 C200 ;	0.464305		2
FAC*NGTVIEHPEYGEVIQLQGDQR	C69 C69 C17 C69 ;C69 C69 C17 C69 ;X ;	0.453565	K7EM18	2
AC*AEVSQWTR	C140 ;C140 ;C140 ;	0.447046 67	Q8NEC7	3
NCHC*EAHWAPPFC*DKFGFGGSTDSPGPIR	C678 C687 ;X ;C684 C675 C687 C678 C687 C675 C684 C678 C687 ;C678	0.436866 67	O43184	2

EIFLSQPILLELEAPLKIC*GIQEQLSGS	C33 ;X ;X ;	0.427545	F8WE71	2
NAEDC*LYELPENIR	X ;C145 C70 ;X ;	0.42275		2
SAGC*AAYMAPER	X ;C323 C280 C296 ;C323 C280 C296 ;	0.41739		2
VASMP LISSTC*DMVSAAYASTK	C39 ;X ;M32 C39 ;C39 M32	0.38496	O60664	3
QSEM QMKAGVTCEVC*MNVVQK	C297 ;M286 C297 ;X ;	0.371464 29	Q6NUJ1	3
TAFLAEDFNPEEINLDC*TNPR	X ;C180 ;C180 ;	0.36358		2
GSDPFASDC*FFR	C657 C523 ;C657 C523 ;X ;	0.35041	P42566	2
C*GVPDVAQFVLTEGNPR	C92 ;C92 ;C92 ;	0.338891 11	P03956	3
C*HEDNVVVAVDSTTNR	C196 C196 ;X ;X ;	0.329093 33	E9PC74	2
NVMMIQSC*K	C353 ;C353 ;X ;	0.32127	O00622	2
ELQKAIGAVPLIQGEYMIPC*EK	C106 M126 C129 M326 C329 ;M103 C329 ;X ;	0.31722	P07339	3
MLNYSAPSAGGC*LLDRK	C40 C34 C12 C103 ;C40 C34 C12 C103 ;X ;	0.31054	G3V2P5	3
ETGLSHLCEFIEDC*EFTVLATR	C446 ;C446 C446 ;X ;	0.283263 33	Q9Y678	2
SVPTTQC*LDNSK	C226 C226 C226 C226 ;C226 C226 ;X ;	0.27812	A0A087WV 66	3
C*YSAPVAAEPFLSGTSSNYVEEMYC*AWLENPK	X ;C39 C63 ; C63 C39 C63 ;C39	0.26692		2
YREVHYVLLDPC*SGSGEMVR	C124 ;C124 ;X ;	0.263715	Q63ZY6	2
VICAEEP YIC*K	C456 ;X ;C456 ;	0.24512	P49915	3
NMITGTSQADC*AVLIVAAGVGEFEAGISK	C111 ;M102 C111 ;C111 M102	0.23012	P68104	3
TC*NTMNQFVNK	C299 C298 ;C299 C298 ;X ;	0.227035	Q7L5N1	2
YC*TDTGVLFR	X ;C58 ;C58 C58 C58 ;	0.22071		2
KEC*ENCDCLQGFQLTHSLGGGTGSGMGTLISK	X ;C471 ;X ;	0.213606		2
QVSCDNCAASMAFEDKEIHDQNC*PLANVICEYCNILIR	X ;C208 ;C208 ;	0.209665		2
AMASLLQLMAAPTSSC*TSLMWKGSMSQWK	C99	0.2084	H3BQY0	3
C*IPEIDDSEFCIR	X ;C168 C137 ;X ;	0.205746 67		2
SESC*DC*LQGFQLTHSLGGGTGSGMGTLISK	C129 C127 C129 ;C127 C129 ;C127	0.194026 67	Q9BVA1	3
DQTAALLNSAGLGAADLFVLPANC*GSSDGCEELER	C152 ;C152 ;X ;	0.19334	Q8WZA9	2
HIQGIIQDVIFPLMC*YTDADDEELWQEDPYEYIR	C359 ;C359 ;X ;	0.1932	O95373	2
ANDQEPC*GWWLAK	C28 C77 C64 C77 ;C28 C77 C64 C77 ;X ;	0.18351	E9PFF5	2
AELFVQC*LATYSYR	X ;C55 ;X ;	0.16351		2
SLQMNDYKIALLC*NAYSTNSEC*FTLPMGALVETIYNGIMR	C487 ;C484 C487 ;X ;C493 C478 C493 C484 C484 C487 C478	0.16155	Q5JWT2	2
KQC*QLQTAIAEAEQR	C383 ;C383 C383 C383 C383 ;X ;	0.149383 33	Q5XKE5	3
GVVLC*TFTR	C64 ;C64 ;X ;	0.145325	O15235	2
PLHSMPLYPPDYLIDPQILLC*DYLEK	C58 C58 C58 ;C58 C58 C58 ;X ;	0.14302	Q9NUG4	2

VGAVGMAC*AISILMKDLADELALVDVIEDK	C35 C64 ;C35 C64 ;X ;	0.13097	P00338	2
LFIFETFC*R	C345 ;C345 ;X ;	0.126045	P60228	2
GLELIASENFC*SR	C59 C80 ;C59 C80 ;C80 C59 C80 C59 C59 C59 C80 C80 C59 C59 C59 C59 ;	0.10505	P34897	3
SLRLSC*TASGFTFGDYAMSWVR	C30	0.10158	A0A087WU 91	3
LIYNC*AVEMVQSAALDEMFAQQTEDIVYRYHK	X ;C968 C968 ;C968 C968 ;	0.093712 5		2
EGILSDEIYC*PPETAULLGSYAVQAK	C117 C117 ;C117 C117 ;X ;	0.09337	P15311	2
LPLSTTSNEAC*K	X ;C28 ;C28 C28 ;	0.09109		2
FIQQTYPSPGGEEQAQYC*R	C40 C40 ;C40 C40 ;X ;	0.082665	Q8WUM4	2
QSRTC*STQVC*R	X ;C3688 C3693 C3687 C3692 ; C3692 ;C3688	0.079975		2
EEEVSC*SGPLSQK	C203 C203 ;C203 C203 ;C203 ;	0.07459	Q9UJX4	3
AAQLEPITYMQLSAC*EQIR	C162 ;C162 ;X ;	0.07364	Q9HBH0	2
YEPDSANPDALQC*PIVLCGWR	C638 C673 C437 ;C638 C673 C437 ;X ;	0.064125	Q08J23	2
NIFLVAATLRPETMFGQTNC*WVR	C305 ;C305 ;X ;	0.06058	Q9P2J5	2
C*DENILWLDYK	C152 C152 ;C152 C152 ;X ;	0.035185	P14618	2
LC*EPEVLNSLEETYSPPFR	C261 C261 C261 C242 C261 C224 C261 C227 C261 C261 C261 C261 C242 C261 C224 C261 C227 C261 ;C106 C261 C224 C106 C261 C224 ;C106 C261 C261 C261 C242 C261 C261 C224 C261 C177 C227 C261 ;	0.03399	Q6PJT7	3
CPEALFQPC*FLGMESCGIHETTFSIMK	X ;C965	0.032505		2
LQSAMALFAC*KTLGLK	X ;M83 C3702 ; C88 M3690 C3702 ;M83 C3695 M3697	0.03192		2
VGC*SNIAYPKLVMALMPVGLR	X ;C365	0.02542		2
AVPADVLEALC*KER	C248 ;C248 ;X ;	0.02113	Q6PII5	2
NC*DC*LQGFQLTHSLGGGTGSGMGTLISK	C474 C129 ;C474 C476 C127	0.018712 5	A0A0B4J26 9	3
FFAFWGQDINNLTTPLEC*GRESR	C80 C635 C735 C93 C93 C93 C118 ;X ;C635 C735 ;	0.016026 67	Q8NCN5	2
SSLQYSSPAPDGC*GDQTLGDLTTPTR	C646 ;C646 ;X ;	0.01286	P22102	2
ESNINLC*GSHC*GVSIGEDGPSQMALEDLAMFR	C417 ;X ; C421 C425 ;C413	0.011573 33	P29401	2
NFSNFCNVDVVEILPYLPC*LTAR	C33 ;C33 C33 C33 C220 M183 C245 M207 C253 M207 C190 M246 C214 M213 M207 M238	0.01114		2
CAIIPSDMLHISTNC*R	C33 ;C33 C33 C33 C220 M183 C245 M207 C253 M207 C190 M246 C214 M213 M207 M238	0.01001	Q8N9N5	2
LC*ASGAGATPDTAIEEIKEK	C31	0.00307	P53384	2
SALNVHC*K	C354 C273 C273 ;	0.001685		2

AMR 3-80

Peptide	Modified Residue	average area ratio	Uniprot ID	seen in
SFFTASEGC*SNPLGGGR	C188	336.722373	Q9UKV8	2
DLETLKSLC*R	C308 C340 C151	188.338308	M0QY25	4
GTLTEAFPVLGGKAIFFC*IAR	C733	172.9236		2
SLRLSC*TASGFTFGDYAMSWVR	C30	65.29699	A0A087WU91	2
HSC*AVVNIPAPCVNKMISHIQDVESK	C86	61.0696	F8W7A7	2
IC*YIFHETFGFR	C367 C380	57.2497133		2
TQNLPC*QLISR	C367 C374 C310	23.185875		2
LVNC*HVIAAPSMVAMFENFVSVTQEEDVPQVR	C137	17.8553225	Q09161	3
YIYDQC*PAVAGYGPIELPDYNR	C453	16.48568	P31930	3
SCSSSC*AVHDLIFWR	C46	14.8166086	O95197	4
DFGFGMTC*QYRSDFLTIGGFDMVEVK	C436	12.60784		2
GALEGSSC*PFR	C253 C282 C336	9.26276		2
SLDQTSPC*PLVLVR	C691	8.535735	P01606	4
LPITVLNGAPGFINLC*DALNAWQLVK	C241 C240	7.86094		2
ELSFSGIPC*EGGLR	C36	7.57347	Q9NVG8	4
LGC*NITISEDITPR	C38	6.41806667		2
QC*HPC*PGVPQGTSPAPVPYGYFGGGYYSR	C66 C63	6.09451	Q92826	2
SGLTPNDIDVIELHDC*FSTNELLYEALGLCP EGQGATLVDR	C263 C307 226 C283	5.66025273		3
LDVGNFSWGSEC*CTR	X ;X ;C71 ;X ;	4.95250667		2
PVMSGNTAYPVISC*PPLTPDWGVQDVWSSLR	C350 ; C350 M339 C350 ;M339	4.910015	P22234	4
EPTPPLPGDMSTGPIAESWC*YTQVK	X ;X ;C23 C23 C23 ;C23 C23 C23 ;	4.795235		2
YIELFLNSC*PK	X ;C476 C413 C314 C420 C449 ;C476 C413 C314 C420 C449 ;C476 C413 C314 C420 C449 C476 C413 C314 C420 C449 ;	4.674884		3
RPTEIC*ADPQFIIGGATR	C82 ;C82 ;C82 ;C82 ;	4.61425	P17655	4
VSDTVVEPYNATLSVHQLVENTDETYC*IDNE ALYDICFR	C183 C183 C183 C201 C201 C201 C201 C201 C201 C201 C201 C201 ;C183 C183 C183 C183 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 ;C183 C183 C183 C183 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 ;C183 C183 C183 C183 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 C201 ;	4.56465346	Q5JP53	4
FSFC*CSPEPEAEAEAAAGPGPCR	C26 C26 C26 ;X ;C26 C26 ;X ;	4.479196	E3W990	4
LPSPDC*PFPR	X ;C148 C148 ;C148 C148 ;X ;	4.46794		2

SSGGFVWAC*K	X ;C308 ;X ;X ;	4.44211		2
VPLASQGLGPGSTVLLVVDKC*DEPLSILVR	C70 C70 C78 ;C70 C70 C78 ;C70 C70 C78 ;X ;	4.41484333	A0A096LPJ4	4
TSC*GSPNYAAPEVISGR	C185 C200 C174 C174 ;C185 C200 C174 ;X ;X ;	4.342165	Q13131	2
LLLC*GGAPLSATTQR	C450 ;X ;C450 C450 ;C450 ;	4.16758714	O95573	3
EISCVDIKPLSTLISVGC*DLDK	C510 C168 ;X ;X ;C510 C168 ;	4.11761	Q86XM0	2
TVEIC*PFSFDSR	X ;X ;C536 C572 ;C536 C572 ;	4.071605		2
KGGPGVALSVGTLPLDSGAGSESGTATPSA LITTNMVAMEAIC*PEGIAR	X ;X ;C755 C748 C707 ;X ;	3.77316		2
EANTLNLAPYDACWNAC*R	C285 C285 C285 ;X ;X ;X ;	3.73845333	Q9NR50	3
ICDEC*NYGSYQGR	X ;C49 ;X ;C49 ;	3.6779825		2
DSHEDGDYVEVDINGPEILAC*K	X ;C437 C437 ;X ;C437 C437 ;	3.65874		2
AGAPDEAVCGENVSIQYC*ALLGCMDDYTTD SR	X ;C850 C850 C850 ;X ;C850 C850 C850 ;	3.56342		2
NMMAAC*DPR	C285 C303 C303 C303 C650 C303 C303 C303 ;C285 C303 C303 C303 C303 C650 C303 ;X ;C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C650 C303 C231 C650 C303 C231 C303 C303 C303 C303 ;	3.54314	Q5JP53	4
NNEELVVSASC*KEPEQEPVPAQFQK	C540 C511 C463 C539 ;X ;X ;C540 C511 C463 C539 ;	3.5097	Q96ME7	2
AEVLISVGPEDC*VVPFLTRPK	C38 ;C38 ;X ;C38 C38 ;	3.5069675	P56192	3
DNQNFV*VPCYEK	X ;C150 C260 C266 ;X ;C150 C260 C266 ;	3.47452667		2
AVQDLC*GWR	X ;C428 C428 ;X ;C428 ;	3.4643		2
LPILIFPEGTC*INNTSVMFMK	X ;X ;C306 ;C306 C306 ;	3.444125		2
ANC*IMEVSC*GQAESSEKPNADMTSK	X ;C9 C15 ;X ;X ;	3.41244		2
FEQSDLEAFYNVITVC*GTNEVR	C308 C306 ;C308 C306 ;X ;C308 C306 C308 C306 ;	3.404984	Q5JPI3	3
FSPNSSNPIIVSC*GWDK	X ;C168 ;X ;C168 ;	3.395944		2
DKEPEVVFIGDSLVLMLHQC*EIWR	X ;X ;C55 ;X ;	3.391035		2
GDPQVYEELFSYSC*PK	C417 C460 C369 ;X ;X ;C417 C460 C369 ;	3.355445	Q9Y262	2
DFQDYMEPEEGC*QGSPQR	X ;C191 ;X ;C191 C152 ;	3.338235		2
ILLNACC*PGWVR	C227 ;C227 ;C227 ;C227 ;	3.303542	P16152	4
LLTMAGIFDC*WEPPEGDVLYSYTITVDSCK	C140 M176 C182 M176 C182 ;X ;X ;X ; C92 M128 C134 M134 C92 M86	3.29538	D6RAI0	2
AC*DLPAAVHFPDTER	X ;C181 C153 C181 C123 C181	3.2581		2

	;X ;C181 C153 C181 C123 C181 ;			
DCIGGC*SDLVSLQQSGELLTR	X ;X ;X ;C83 ;	3.217295		2
SSSSSSASAAAAAASSSASC*SR	C100 ;C100 ;C100 ;C100 C100 ;	3.2158575	Q07065	4
QEC*GEPALPSASEEQVAQDTEEVFR	C14 C14 C14 ;X ;X ;C14 C14 C14 ;	3.158405	Q16611	2
DFGYGVEEEEEEAAAAGGGVAGAGGGC*G PGGADSSKPR	C52 ;X ;X ;C52 ;	3.144125	Q9HB90	2
EANTLNLAPYDAC*WNACRGDR	C281 C281 C281 ;X ;X ;X ;	3.109514	Q9NR50	4
TCLPAPC*PSSSNISLWNILR	X ;X ;C453 C489 ;X ;	3.0819		2
SGVIVLPC*GAGK	C342 ;C342 ;X ;X ;	3.07763	P19447	3
IEEDVVVTDSGIELLTC*VPR	C467 C467 C467 ;C467 C467 C467 ;C426 C467 C426 C467 C426 C467 ;C467 C467 C467 C467 ;	3.06514087	P12955	4
DLLGLC*EQKR	X ;X ;C528 ;C528 ;	3.02716333		2
KAEGDLGPSWVC*GFSNLESQVLEK	C184 ;X ;X ;C184 ;	3.023595	Q15814	2
SAC*SLESNLEGLAGVLEADLPNYK	X ;C44 ;C44 ;C44 ;	2.9577125		3
FCSFSPC*IEQVQR	C209 ;X ;C209 ;C209 ;	2.93215333	Q96FX7	3
KDDYEYC*MSEYLR	C40 ;X ;X ;C40 ;	2.930435	P53611	2
FDDLQFFENC*GGGSGSVYR	X ;C22 ;X ;C22 ;	2.92091167		2
LNNLIC*DESDVKDLAFK	C361 C362 C361 C361 ;X ;C362 ;C362 ;	2.9116	Q96EB1	3
VILITPTPLC*ETAWEEQCIQGCK	C24 C117 C137 ;C24 C117 C137 ;C24 C117 C137 ;C24 C117 C137 C24 C117 C137 ;	2.900024	Q2TAA2	4
LPTPTYGDLNHLVVSATMSGVTTTC*LR	C239 C239 ;X ;X ;C239 C239 ;	2.89981566	Q3ZCM7	4
IIDLEEAEDEIEDIQEITVLSQC*DSSYVTK	X ;X ;C77 ;X ;	2.89313364		3
ADHQPLTEASYVNLPTIALC*NTDSPLR	X ;C148 C153 C148 ;X ;C148 C153 C148 ;	2.857836		2
DLSYC*LSGMYDHR	X ;C267 ;X ;C267 C267 ;	2.85693667		2
DFTPVC*TTTELGR	X ;C47 ;X ;X ;	2.82499333		2
ETTQNALQTPC*YTPYYVAPEVLGPEK	C203 C203 ;X ;C203 C203 ;X ;	2.80018667	C9J8E1	3
QC*GGLQGFLIFRSFGGGTSGSFTSLLMER	C136 C96 C136 C96 C136 C96 ;C136 C96 ;C136 C96 ;C136 C96 ;	2.7965	A6NHL2	4
EVIYIC*PFNGPIK	X ;X ;X ;C53 C53 ;	2.792254		2
GSAFAIGSDGLC*CQSR	X ;X ;X ;C110 ;	2.791885		2
ERPTPSLNNNC*TTSEDSLVLYNR	C744 ;C744 C744 ;C744 ;C744 ;	2.78078857	P07814	4
LSIPTYGLQC*TR	X ;X ;C2273 ;C2273 ;	2.7067525		2
VQENSAYIC*SR	C585 ;C585 ;C585 ;C585 ;	2.70027571	Q9Y3T9	4
GIGMNEPLVDC*EGYPR	C59 C59 C59 C59 C59 ;C59 C59 C59 C59 C59 C59 ;X ;C59 C59 C59 C59 C59 ;	2.69741667	O00233	3
ILYSQC*GDVMR	C32 C33 C32 C125 C33 C32 C32 C20 ;X ;X ;X ;	2.691805	P60660	2

LDGSLETTNEILDSASHDC*PLVTQTYGAAAG K	X ;X ;X ;C375 C393 C393 C375 ;	2.69053333		2
IAPC*PSQDSLSDPLDSTSAQAGEGVQR	C169 C308 ;C169 C308 ;C169 C308 ;C169 C308 ;	2.688976	Q99704	4
TYDPSGDSTLPTC*SK	X ;C439 ;X ;C439 ;	2.6852525		3
VFFIQAC*QGDNYQK	C345 C419 C377 C360 C276 ;C345 C419 C377 C360 C276 ;C345 C419 C377 C360 C276 ;C345 C419 C377 C360 C276 ;	2.669934	Q14790	4
KIPC*DVTEAEIISLGLPFGK	X ;C40 C74 C71 C37 C40 C68 ;X ;C40 C74 C71 C37 C40 C68 ;	2.66955333		2
YLLQYQEPIPCQLVTALC*DIK	X ;X ;C89 ;C115 C115 C115 C115 C84 C91 ;	2.662505		2
SSSLNSGNLNPAC*R	X ;X ;C559 C75 ;C559 C75 ;	2.62999		2
VC*EDLDTSVNLAWTSGTNCTR	C210 C210 ;C210 C210 ;X ;C210 C210 C210 C210 ;	2.610463	A0A0A0MR02	4
IGTSGGIGLEPGTVVITEQAVDTC*FK	C162 ;C162 C162 ;C162 C162 ;C162 C162 ;	2.608585	Q16831	4
NEDEEGYVPTSYVEVC*LDK	X ;X ;X ;C604 C543 C556 C609 C543 C604 C580 ;	2.6048925		2
LQDPKDDEC*PVVNAYATLIENDSNPEVR	C177 ;X ;X ;C177 ;	2.59399	Q9BPX3	2
IGSSLYALGTQDSTDIC*K	X ;X ;X ;C264 C276 C148 ;	2.59004		2
RVDDFEAGAAAGAAPGEEDLC*AAFNVICDN VGK	C98 ;C98 C98 ;X ;C98 C98 ;	2.5781125	Q13158	4
SSSC*GDETELLGQATLPVGSRSRPLSR	X ;X ;C359 C359 ;X ;	2.57305		2
TATC*HSSSSPPIDAASAEPYGFR	X ;X ;C1814 ;C1814 ;	2.56632		2
SDQGVVEGPGGTGGSGSPNDPVTNIC*QAA DK	C150 C340 C340 ;C150 C340 C340 ;C150 C340 C340 ;C150 C340 C340 ;	2.56547167	A0A0G2JKR7	4
SAGC*AAYMAPER	X ;X ;C323 C280 C296 ;C323 C280 C296 ;	2.54872667		2
LGTDESC*FNMILATR	X ;X ;C363 C341 ;C363 C341 ;	2.54435714		3
QNLFQTGSNVSFSC*GGETR	C203 C203 C203 C203 ;C203 C203 C203 C203 ;X ;X ;	2.54016	Q9H4L5	2
MLSAVSQQVQC*IQEALR	X ;X ;C1977 ;C1977 ;	2.534985		2
EAVFPFQPGSVAEVC*ITFDQANLTVK	C89 C89 ;C89 ;C89 ;C89 ;	2.53492143	P09382	4
VQVSDPESTVAVAFPTIPHC*SMATLIGLSIK	X ;C93 C93 C55 ;C93 C93 C55 ;C93 ;	2.53137667		3
EEFASTC*PDDEEIELAYEQVAK	X ;X ;X ;C223 ;	2.529725		3
FQSAAGALQEASEAYLVGLFEDTNLC*AIHAK	X ;X ;X ;C111 C111 ;	2.52719333		3
MAGIFDVNTC*YGSPQSPQLIR	C428 C468 C467 C353 ;C428 C468 C468 C467 C353 ;C428 C468 C467 C353 ;X ;	2.527108	Q9BTX1	4
VC*ISILHAPGDDPMGYESSAER	C89 C61 ;X ;X ;X ;	2.51753	P60604	2

LTPGCEAEAETEAIAC*FFVQQFTDMEHNR	C2369 ;X ;X ;X ;	2.511524	P49327	4
YSNSALGHVNC*TIK	C282 ;X ;C282 C301 C1101 ;C282 ;	2.510286	Q9NQC3	3
GTWEELCNSC*EMENEVLK	C652 ;X ;X ;X ;	2.50128	O95573	2
LICC*DILDVLDK	X ;C98 ;X ;C76 C98 ;	2.50093667		2
AGC*AVTSSLASELTK	C1227 C1218 C1227 C1183 C1218 C1203 ;C1218 C1227 C1183 C1218 C1203 ;C1227 C1218 C1227 C1183 C1218 C1203 ;C1227 C1218 C1227 C1183 C1218 C1203 ;	2.4976425	O60610	4
TTEEQVQASTPC*PR	X ;X ;C108 ;C108 ;	2.49527667		2
ESAQCVGDEFLNC*K	X ;C200 ;X ;C200 ;	2.47327667		2
SLLC*GEDEAADENPESQEMLEEQVLR	X ;C941 ;X ;C941 ;	2.4570625		2
QGEYGLASIC*NGGGGASAMLIQK	C413 ;X ;X ;C413 ;	2.442465	P24752	2
QMEKDET VSDC*SPHIANIGR	C194 M223 C206 M226 X ;X ;M197 C206 M185 C235 M197 C232 ;X ;	2.44244		2
IIVFSAC*R	X ;C91 ;X ;C89 C91 ;	2.43013		2
SIKDTIC*NQDER	C509 C462 C456 ;C509 C462 C351 C456 ;C509 C462 C456 ;C509 C462 C456 ;	2.429695	Q9ULV4	4
TDSCDVNDC*VQQVVELLQER	X ;C212 ;X ;X ;	2.42347		2
SC*SSSCAVHDLIFWR	X ;C42 ;C42 ;C42 ;	2.42182		3
C*SDSDGLAPPQHLIR	X ;X ;C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182 ;C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182 ;	2.40706333		2
QMFEPVSC*TFTYLLGDR	C34 ;X ;C34 ;X ;	2.40358429	O95571	4
VDENFDC*VEADDEGK	X ;C101 ;X ;X ;	2.39796333		3
VQPQWSPAGTQPC*R	X ;X ;C110 ;C110 ;	2.39221		2
SC*NGPVLVGSPQGGVDIEEVAASNPELIFK	X ;C162 C162 ;X ;C54 C162 C162 C162 ;	2.3897525		2
PGPEGEGLSLEQPPPLQTQAC*PESSCLR	X ;X ;X ;C79 ;	2.3885625		3
LNIISNLDC*VNEVIGIR	C390 C275 C402 C402 C357 ;C390 C390 C275 C402 C402 C275 C402 C402 ;X ;C390 C390 ;	2.3797975	P30153	3
AFTKPEEAC*SFILSADFPALVVK	X ;C134 ;C134 ;X ;	2.37785		2
EEC*PVFTPPGGETLDQVK	X ;X ;X ;C55 C114 ;	2.375175		3
FLSQIESDC*LALLQVR	X ;C794 ;X ;X ;	2.3606		2

KC*DLISIPK	X ;X ;C473 C426 C420 ;C473 C426 C420 ;	2.358635		2
TWALTTAVSIPEQDNIAC*TSPHVLKGTPLSR	X ;C210 ;C210 ;X ;	2.35306		2
GLGTDEDSLIEIC*SR	C151 C151 ;C151 C133 C151 C133 C151 C133 C151 C133 ;C151 C133 C151 C133 C151 C133 ;C151 C133 C151 C133 C151 C133 ;	2.35052286	P07355	4
YADLTEDQLPSC*ESLKDTIAR	C153 ;X ;X ;C153 ;	2.33237	P18669	4
EADQKEQFSQGSPSNC*LETSLAEIFPLGK	C102 C161 ;X ;X ;C102 C161 ;	2.33095538	A0A0U1RQD1	4
TDDYLDQPC*YETINR	X ;C202 ;X ;C202 ;	2.32263429		3
NAGNC*LSPAVIVGLLK	C335 C369 ;C335 C369 ;C335 C369 ;C335 C369 ;	2.314584	Q5SZU1	4
VTEPSAPC*QALVSIQDLQATFHGIR	X ;X ;C795 ;C795 ;	2.3113825		3
VTQNLPMKEGC*TEVSLLR	C308 ;C308 C308 ;C308 ;C308 ;	2.29345	Q1KMD3	4
VIEQLGTPC*PEFMK	X ;C245 C245 ;X ;C245 C283 C283 C245 C245 C196 C245 C245 ;	2.28903		2
ADEASELAC*PTPK	C2202 ;C2202 ;X ;C2202 ;	2.279005	P49327	3
SVFEGELSDTIPVVHASIAGC*R	X ;C56 ;C56 ;C56 C56 ;	2.27580714		3
LEHEEGAPC*TAIR	X ;X ;C233 C233 C180 C280 C206 C206 C158 C212 ;X ;	2.268005		2
SGAELALDYLC*R	X ;X ;C107 C92 C107 C75 ;C107 C92 C107 C75 ;	2.26677333		2
NQC*LFTNTQCK	X ;X ;C68 C68 C68 C68 C93 C68 ;C68 C68 C68 C68 C93 C68 ;	2.26233		2
LGGTC*VNVGCVPK	X ;X ;C102 C102 C59 ;C102 C102 C102 C102 C59 ;	2.259255		2
LPPQSSGVDTSPC*PNSPVFR	X ;X ;C269 C360 ;C269 C360 ;	2.257785		2
DLQPFPTC*QALVYR	C292 C404 ;X ;C404 ;C404 ;	2.246435	Q14137	4
VGILDVDLC*GPSIPR	C142 C54 C54 ;X ;X ;X ;	2.24315	H3BNS4	2
VGQWVSLWAGLGGERGECAC*LPGK	X ;C334 ;C334 ;X ;	2.2393		2
GLC*AIAQAESLR	C97 C97 ;C97 ;C97 ;C97 C97 C97 C97 ;	2.2354905	P23396	4
SDVC*TPGGTTIYGLHALEQGGRLR	X ;C235 C215 C247 ;X ;X ;	2.23475		2
VAASC*GAIQYIPTELDQVRK	C134 ;C134 ;C134 ;C134 C134 ;	2.23231778	Q7L2H7	4
RVETNQDWSLMC*PNECPGLDEVWGEEFEK	C352 ;C352 C352 ;X ;C352 ;	2.230085	P23921	4
SELEC*VTNITLANVIR	C27 C27 ;X ;X ;C27 C27 C27 C27 ;	2.22825	Q9Y6W5	2
SLDDSQC*GITYK	X ;C282 ;X ;X ;	2.220555		2
LQDAFSSIGQSC*HLDLPQIAVVGQSAGK	C27 C27 C27 C27 C27 ;C27 C27 ;C27 C27 C27	2.21697077	P50570	4

	;C27 C27 C27 C27 C27 C27 ;			
NIC*FTVWDVGGQDK	C62 C62 ;C62 ;X ;C62 ;	2.21663	P84085	3
VGSFGSSPPGLSSTYTGGPLGNEIASGNNGGA AAGDDEDGQNLWSC*ILSEVSTR	X ;X ;C51 ;X ;	2.209805		2
EDLNC*QEEEDPMNK	X ;C139 C139 ;X ;X ;	2.20494333		2
IC*DQWDNLGALTQK	C480 C480 C480 ;C480 C480 ;C480 C480 ;C480 C480 C480 C480 ;	2.20464625	P12814	4
SSPGLSDTIFC*R	X ;C27 ;X ;C27 ;	2.20224		2
NLSFFLTPPC*AR	C492 C494 C492 ;C492 C494 C492 ;C492 C494 C492 ;X ;	2.19965333	P42224	3
KNEPPLTC*PYSLK	X ;X ;C295 ;C295 ;	2.197945		2
LTTPTYGDLNHLVSATMSGVTTCLR	C221 C221 C239 C239 C239 C239 C239 C239 ;C221 C239 C239 C239 ;C221 C221 C239 C239 C239 C239 ;C221 C239 C239 C239 ;	2.19761545	Q5JP53	4
IALTC*PFEPKPK	X ;X ;X ;C253 C215 C232 ;	2.19256		2
YWLC*AATGPSIK	C249 ;X ;C249 ;C249 ;	2.191392	P63244	3
LALFNPDVC*WDR	X ;C44 ;X ;C44 ;	2.1869		3
TTC*SSGSALGPGAGAAQPSASPLEGLDLSY PR	C12 C12 C12 ;X ;X ;X ;	2.184505	F8WDZ3	3
NADMSEEMQQDSVEC*ATQALEK	X ;C24 ;X ;C24 ;	2.18441667		2
SQEATEAAPSC*VGDMADTPR	C65 C230 C84 C57 C229 C241 C248 ;C230 C84 C229 C241 C248 ;X ;C65 C230 C84 C57 C229 C241 C248 ;	2.1830925	K7ER14	3
YLLQYQEPIPC*EQLVTALCDIK	C81 ;C107 C107 C107 C76 ;C81 ;C107 C107 C107 C107 C76 C83 ;	2.181014	HOYMI6	4
VC*NVAPIAGETK	X ;X ;C336 C188 ;C336 C188 ;	2.17504		2
HIEALLGSPC*GK	X ;X ;C81 ;C81 ;	2.17354		2
NTGIIC*TIGPASR	C49 C49 ;C49 C49 ;X ;C49 ;	2.1735175	P14618	4
C*YEMASHLR	C128 ;X ;X ;C128 ;	2.17011	P07737	2
NTVLC*NVVEQFLQADLAR	C70 ;C70 ;C70 ;C70 C70 ;	2.16901429	Q14258	4
IHMGC*AENTAK	X ;X ;C196 ;X ;	2.16761		2
AC*PRPEGLNFQDLK	X ;X ;C219 C227 C307 ;C219 C227 C307 ;	2.164425		2
RNAEFLTC*NIPTSNASNMVTEK	X ;X ;C435 C97 C392 ;C387 C435 C392 C392 C392 C97 ;	2.163245		2
SLHDALC*VVK	C397 ;X ;C397 C397 ;C397 ;	2.13983	P17987	3
NIQPPSCVLHYYNVPLC*VTEETFTK	X ;C459 C430 C464 C464 C459 C430 ;C459 C430 C464 C464 C459	2.13614667		3

	C430 ;C459 C430 C464 C464 C459 C430 ;			
LVVPATQC*GSLIGK	C109 ;C109 ;C109 C109 ;C109 ;	2.135928	Q15365	4
LYYFQYPC*YQEGLR	X ;X ;C130 ;C130 ;	2.13152714		3
RVDDFEAGAAAGAAPGEEDLC*AAFNVIC*DN VGK	C98 C105 ;X ;X ; ;	2.12485	Q13158	3
LIC*CDILDVLDK	X ;X ;X ;C75 C97 ;	2.1164025		2
SEETNTEIVEC*ILK	C902 C903 ;X ;C903 C543 C902 ;C902 C903 ;	2.11126286	A0A087WV66	4
LPLMEC*VQMTQDVQK	C360 ;C360 ;X ;X ;	2.106471	Q01813	4
VFIMDSC*DELIPEYLNfir	C366 ;C366 C366 ;C366 ;C366 ;	2.10505468	P08238	4
IQCTLQDVGSALATPC*SSAR	C80 C132 ;C80 C132 ;C80 C132 ;C80 C132 C132 ;	2.10501333	S4R3P5	4
FC*AFGGNPPVTGPR	X ;C152 C150 ;C152 C150 ;X ;	2.09848		2
AWSTGDC*DNGGDEWEQEIR	C54 ;C54 ;X ;C54 C54 ;	2.095149	Q9BRF8	3
VAC*AEWQESR	C87 ;C87 ;X ;C87 ;	2.09048143	O75663	3
FALNHPELVEGLVLINVDPC*AK	X ;C166 C154 C166 ;C71 C166 C154 C166 C77 ;C71 C166 C154 C166 ;	2.08954		3
ENVNVEEMFNC*ITELVLR	X ;C163 C147 ;X ;X ;	2.08636		3
LMSNLDSNRDNEVDFQEYCVFLSC*IAMMCN EFFEGFPDK	C81 C81 ;X ;X ;X ;	2.08299478	P26447	4
SC*SGVEFSTSGHAYTDTGK	X ;X ;X ;C36 ;	2.08024667		3
VVLLGEGC*VGK	X ;C29 ;X ;C29 ;	2.07697		2
IHESAGLPFFEIVDAPLNIC*ESR	C155 C155 ;C155 ;C155 C155 ;C155 C155 ;	2.07071824	O95340	4
DNAAVDGLSLHLQDQCPLLYSTDDAIC*SK	C874 C815 ;C874 C815 ;C874 C815 ;C874 C815 ;	2.06862333	O75694	4
NAIQLLASFLANNPFSC*K	X ;C439 ;C439 ;X ;	2.06677		3
YLGIPGDKEYCISSDDLFLSPYC*PGK	C239 C189 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 ;X ;X ;C239 C189 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 ;	2.06539333	A0A087WSW9	3
INPSETYPAFC*TTCPSEPGLVGPSVR	C425 ;X ;X ;C425 ;	2.06303667	Q96GW9	2
AENGLLMTPC*YTANFVAPEVLKR	C579 C559 C564 C584 C575 C483 ;C579 C559 C564 C584 C575 C483 ;C579 C559 C564 C584 C575 C483 ;C559 C564 C584 C575 C483 C579 ;	2.06122091	P51812	4
GLIAAIC*AGPTALLAHEIGFGSK	X ;C106 C86 ;X ;X ;	2.05707375		3
IIPGFMC*QGGDFTR	C62 ;X ;C62 ;C62 ;	2.05429	P62937	3
SWC*PDCVQAEPVVR	C43 ;C43 C43 ;X ;C43 ;	2.053505	Q9BRA2	4
DPLDPNEC*GYQPPGAPPGLGSMPSSSCGP R	X ;C131 ;X ;C131 ;	2.051455		2

LAIIVDEGGDALLVSLVC*R	X ;C86 C86 ;X ;X ;	2.04883667		3
YSLADQTSQDQSPLPPCTPTPPC*AEMR	X ;C569 C573 ;X ;C569 C573 ;	2.0422525		2
GYEVIYLTEPVDEYC*IQALPEFDGKR	C576 ;X ;X ;X ;	2.03767	P14625	2
NEC*DPALALLSDYVLHNSNTMR	X ;X ;X ;C459 ;	2.03745667		2
DGIILC*ELINK	X ;C59 ;X ;X ;	2.03573		2
SDDPFIQQVALLTLSNNANYSC*NQETIR	X ;X ;C419 ;C419 ;	2.03563333		2
	C111 C111 C111 C111 C111 C111 C111 C111 ;C111 C111 C111 C111 C111 ;C111 C111 C111 C111 C111 C111 C111 C111 ;C111 C111 C111 C111 C111 C111 C111 C111 C111			
NMITGTSQADC*AVLIVAAGVGEFEAGISK	C111 ;	2.03455571	P68104	4
YATSCYSCC*PR	X ;X ;C144 C173 ;C144 C173 ;	2.030505		2
	X ;C63 C63 C63 C13 C63 C63 ;X ;C63 C63 C63 C63 ;	2.029435		2
LATTAC*TLGDGEAVGADSGTSSAVSLK				
ASATGMIIMDGVVEPVLENVLPGASSLGGPFG C*LNNAR	C289 C289 ;X ;C289 C289 ;X ;	2.0255175	Q92947	3
	X ;C1059 ;X ;C1059 C1059 C1059 ;	2.01770167		2
VWLQYQC*LWDMQAENIYNR				
	X ;C89 C77 C77 ;C89 C77 C77 C89 C77 C77 ;C89 C77 C77 C89 C77 C77 C89 C77 C77 ;	2.01744875		3
IIDLEEADEIEDIQEITVLSQC*DSPYVTK				
	C411 C390 ;C411 C390 C390 ;C411 C411 C390 ;C411 C390 C390 ;	2.017415	P68104	4
PMC*VESFSDYPPLGR				
	X ;X ;C298 C302 ;C298 ;	2.016305		2
GYWAGLDASAQTTSHELTIPNDLIGC*IIGR				
	C659 C615 C613 ;C659 C613 ;C659 C615 C613 C659 C615 C613 ;C659 C615 C613 ;	2.013118	Q16643	4
EGTQASEGYFSQSQEEFAQSEELC*AK				
	C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 ;C641 C641 C641 C641 C641 C641 C641 C641 ;C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 ;C641 C641 C641 C641 C641 C641 C641 C641 C641 ;	2.0083256	X5CMH5	4
VLILDEATSALDVQC*EQALQDWNSR				
	C71 C60 ;C71 C60 ;X ;X ;	2.00641667	P32321	2
IVGIGYNGMPNGC*SDDVLPWR				
	C185 C153 C164 ;C164 ;C185 C153 C164 C155 ;C185 C153 C164 ;	2.00583444	B4DUT8	4
AGQC*VIGLQMGTK				
	X ;C57 ;X ;X ;	2.003885		2
ISDTGSAGLMLVEFFAPWC*GHCK				
	C137 ;X ;X ;C137 ;	2.00266	P27797	2
LFPNSLDQTDHGDSEYNIMFGPDIC*GPGTK				

AGAIAPC*EVTVPAQNTGLGPEK	C119 ;C119 C119 C99 ;C119 C119 C99 ;C119 ;	2.00072222	P05388	4
VLTC*TDLEQGNFFLDFENAQPTSEK	C10 ;X ;X ;C10 ;	1.99463333	Q9NUQ9	4
C*DYMDDEVTYGELEKEEAQPIVTK	C602 ;X ;X ;C602 ;	1.992685	Q1KMD3	2
GVLlyGPPGC*SK	X ;C672 C672 C672 ;X ;X ;	1.98938333		3
VVVAENFDEIVNENKDVLIIFYAPWCGHC*K	X ;C409 ;X ;X ;	1.989175		2
MVSDINNAWGC*LEQVEK	C370 ;X ;X ;M360 C370 ; C370 M360	1.98673286	P12814	3
LNPAVTC*AGK	C878 ;X ;X ;C878 ;	1.98489	Q8TD19	2
HTLDGAAC*LLNSNK	X ;X ;C170 C102 C113 C35 C134 ;C170 C102 C113 C134 ;	1.9835425		2
VGMGSGSIC*ITQEV LACGRPQATAVYK	X ;X ;C331 ;C331 ;	1.98336667		2
FNPEAGANC*LVK	C449 ;X ;X ;C449 ;	1.98331	O14777	3
LGGSLIVAFEGC*PV	X ;X ;C146 C163 ;C146 C163 C146 C163 C146 C163 C146 C163 ;	1.98252		2
SGQAGYVPC*NILGEAR PEDAGAPFEQAGQK	C543 C559 ;C543 C559 ;C543 C559 ;X ;	1.98165857	Q9H6S3	4
ASTASPC*NNNINAATAVALQEPR	X ;C598 C605 C599 C528 ;X ;C598 C605 C599 C528 C528 ;	1.98156667		2
YQVTWYTSWSPC*PDCAGEVAEFLAR	X ;C97 ;C97 ;C97 ;	1.981014		3
VGSFC*LSEAGAGSDSFALK	X ;X ;X ;C73 C175 ;	1.979162		3
KPNVGC*QQDSEELLK	C347 ;X ;X ;X ;	1.97905429	A0AVT1	4
IIC*SAGLSLLAEER	X ;X ;X ;C107 C195 ;	1.9772		2
FSTQGMGT FNPADYSDSTSTDVC*GTK	X ;X ;C208 C85 ;C208 ;	1.975735		2
ALLVTASQC*QQPAENK	X ;C92 C93 ;X ;C92 C93 ;	1.9751075		2
EENVGLHQTL DQTLNELNC*I	C283 C109 C247 ;C283 C109 C247 ;C283 C109 C247 ;X ;	1.97508889	P67936	4
STPYEC*GFDPMSPAR	C39 ;C39 ;X ;C39 ;	1.97505444	P03897	3
SCYDLSC*HAR	C471 ;X ;X ;C471 ;	1.971926	P41250	3
ETTNIFSNC*GCVR	X ;X ;C354 C290 ;C354 C290 ;	1.97035		2
VIEINPYLLGTMSGC*AADCQYWER	C116 C120 C120 ;X ;X ;C116 C120 C120 ;	1.969921	P28062	4
LLQPDFQPVC*ASQLYPR	C265 C201 C258 ;X ;C265 C201 C258 ;C265 C201 C258 ;	1.967052	Q9UJW0	4
VVSGMVNC*NDDQGVLLGR	C230 ;C230 C230 ;C230 ;C230 ;	1.964845	P21980	4
GC*ENLNIVQDK	X ;C234 ;X ;C234 ;	1.96087		2
SISSSFGAEPSAPGGGGSPGAC*PALGTK	X ;C34 ;X ;X ;	1.96059		2
DNEVD FQEYCVFLSC*IAMMCNEFFEGFPDK QPR	C81 ;X ;X ;X ;	1.95921	P26447	2
DLAVVTQSAEAPAEEDLLGPNC*YYDK	X ;C310 C230 C310 ;C310 C230 C310 ;X ;	1.95711667		3
AGYDGESIGNC*PFSQR	C487 ;C487 C469 ;C487 C469 ;C487 ;	1.955604	Q96NY7	4

QEPLGSDSEGVNC*LAYDEAIMAQQDR	X ;C23 C23 C23 C23 ;X ;C23 C23 C23 ;	1.95433		2
YVAAAFPSAC*GK	C306 C172 C172 ;X ;X ;C306 C172 C172 ;	1.953455	Q16822	2
HPSIIFIDELDALC*PK	X ;C459 C459 C459 ;C459 C459 C459 ;C459 ;	1.9502975		3
FQYEC*GNYSGAAEYLYFFR	X ;X ;C141 ;C141 ;	1.948375		2
SFC*PGGTDSVSPPPSVITQENLGR	X ;C314 ;X ;X ;	1.947945		2
SQLSPLEAPALLWGLLMAVGAVRFVQALLAP C*SLR	C659 C634 ;X ;X ;X ;	1.9478	Q9BU23	2
GC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374 ;C374 C374 ;C374 ;X ;	1.94615833	P22234	3
NVQLLSQFVSPFTGC*YGR	X ;X ;C90 ;C90 ;	1.94498333		2
LC*PGGQLPFLLYGTEVHTDTNK	C59 ;X ;X ;C59 ;	1.94414125	O00299	4
VQTDAFVSNELDDPDDLQC*K	X ;X ;C462 C485 C464 ;C462 C485 C464 ;	1.94046667		2
GWNEC*EQTVALLSLLK	X ;C20 C20 C20 C20 C20 C20 ;X ;C20 C20 C20 C20 ;	1.93964667		2
SGDAAIVDMVPGKPMC*VESFSDYPPLGK	C409 ; C409 ;X ;M408 C409 ;M408	1.93661566	A0A087WV01	4
FMTPIQDNPSGWGPC*AVPEQFR	C19 ;X ;M5 C19 ; C19 ;M5 C19 M5	1.93537917	O15371	4
HGFC*GIPITDTGR	C140 ;C140 C140 ;X ;C140 ;	1.934319	P12268	3
MLNYSAPSAGGC*LLDR	C40 C34 C12 ;X ;X ;C40 C34 C12 C103 ;	1.93149167	G3V2P5	2
TIQFVDWC*PTGFK	C347 C347 C347 C371 C281 C347 C371 C281 ;C347 C347 C347 C347 C347 C347 C347 C371 C281 C347 C371 C281 ; C347 C347 C371 C281 ;C347 C347 C347 C347 C347 C347 C347 C371 C281 C347 C371 C281 C347 C371 C281 ;	1.930817		4
LEVDAIVNAANSSLLGGGGVDGC*IHR	X ;X ;X ;C186 ;	1.9298		2
IVLAGC*VPQAQPR	X ;X ;C138 C68 ;C138 C68 ;	1.929595		2
ATGHSGGGC*ISQGR	X ;X ;C24 ;C24 ;	1.928285		2
FC*NIMGSSNGVDQEHSNVVK	X ;X ;C150 ;C150 ;	1.926814		2
VAAASGHC*GAFSGSDSSR	X ;X ;X ;C919 C947 ;	1.91798		2
NIC*FTWVDVGGQDR	C62 C62 ;C62 C62 C62 ;C62 C62 ;C62 C62 C62 ;	1.91719469	P18085	4
AATEQEPLLEGTEQLDAEEEEQEESAAAAC*G SK	X ;C37 ;X ;C37 ;	1.91689333		2
C*ASQAGMTAYGTR	C173 ;C173 ;C173 ;X ;	1.91629533	Q15417	4
GTDIMYTGTLDC*WR	X ;X ;X ;C257 ;	1.91452333		2
VQEAPIDEHWIIEC*NDGVFQR	C91 ;C91 C91 ;C91 C91 ;C91 C91 ;	1.913086	Q14353	4
AKC*ELSSSVQTDINLPYLTMDSSGPK	C317 ;C317 ;C317 C317 ;C317 ;	1.91172846	P38646	4

LSNVAPPC*ILR	C182 C182 C167 ;C182 C182 C167 ;C182 C182 C167 ;C182 C182 C167 ;	1.91124857	C9JB30	4
LPSSTWGQQSNTTAC*QSQATLSLAEIQK	X ;X ;C959 C932 C960 C938 C932 ;C959 C932 C960 C938 C932 ;	1.9099		2
LDINLLDNVNC*LYHGEGAQQR	C34 ;C34 ;C34 ;C34 C34 ;	1.90462412	O14980	4
KVAEPELMGTPDGTC*YPPPPVPR	C1889 ;C1889 ;C1889 C1826 ;X ;	1.90279111	P27708	4
GTEAGQVGEPIPTGEAGPSC*SSASDK	C241 ;C241 ;X ;C241 ;	1.9026675	O15355	3
LMC*PQEIVDYIADKK	X ;C95 C140 ;C95 C140 ;X ;	1.90030333		3
GAVEKGEELSC*EER	C38 ;X ;C38 ;C38 C38 ;	1.8986875	P31947	4
DPC*AAPNEGFCASAGVQTEAGVADLTWVGER	X ;C65 C65 ;X ;C65 C65 ;	1.895972		2
VSVC*AETYNPDEEEEDTDPR	X ;C101 C101 ;X ;C101 C101 C101 C101 ;	1.8951625		2
AHQLVLPPC*DVIK	X ;C279 ;C279 C279 ;X ;	1.8928475		2
EMDSCPVVGEFPC*QNDINLSQAPALPQPEVI QNMTEFKR	C974 ;C974 ;X ;X ;	1.89062	P14735	2
VLMVEEPSMNLEWLYGC*PPPYHTFEPPVYM K	C498 ;X ;X ;C498 ;	1.889165	P00395	2
GDFYVIEYAAC*DATYNEIVTLER	C109 ;C109 C109 ;C109 C109 C109 ;C109 C109 C109 ;	1.88739048	P51116	4
VVAENFDEIVNENKDVLEFYAPWC*GHCK	X ;C406 ;X ;C406 ;	1.88597846		3
STFFNVLTNSQASAENFPFC*TIDPNESR	C55 C75 ;C55 C75 ;C55 C75 ;C55 C75 ;	1.88593182	Q9NTK5	4
HLSSC*AAPAPLTAER	C141 ;X ;C141 ;C141 ;	1.883174	Q6IBS0	3
GYWASLDASTQTTHELTIPNNLIGC*IIGR	X ;C293 ;C293 ;C293 ;	1.88145286		3
VPLDVAC*AR	C3295 ;C3181 C3295 ;C3181 C3295 ;C3295 C3185 C3162 C3181 C3144 C3126 C3158 C3136 C3158 ;	1.88103	Q15149	4
NTLANSC*GTGIR	C416 ;X ;C416 C393 ;C416 C393 C416 C393 ;	1.87819833	Q96RE7	3
WNDNC*PSWNTIDPEER	C301 ;C301 ;C301 ;C301 ;	1.876085	P17655	4
YDLLFMPSPFPFGGMENPCLFTVTPC*LLAGDR	X ;X ;C311 C311 ;C311 ;	1.87358333		2
IKSGEEDFESLASQFSDC*SSAK	C113 ;C113 ;C113 ;C113 ;	1.87166325	Q13526	4
LTVVDTPGYGDAINC*R	C121 C146 C111 ;C146 C111 ;C71 C121 C146 C71 C111 ;C71 C121 C146 C111 ;	1.871296	Q15019	4
AHTVLAASC*AR	C104 ;X ;C104 ;C104 ;	1.86839	Q8WUY1	3
YSTGSDSASFPHHTPSMC*LNPDLGPPLEAY TIQQQYAIQPDLTK	X ;X ;X ;M212 C213 M212 C213 ;	1.864925		2
GSSC*FECTHYQSFLEYR	X ;X ;C238 C188 ;C238 C188 ;	1.8642925		2

SSGC*DVNLPGVNVK	C5502 ;C5502 ;X ;C5502 ;	1.863066	Q09666	3
VEINPYLLGTMAGGAADC*SFWER	C111 ;X ;C111 ;C111 C60 ;X ;	1.857622	P28074	3
ICDGCIIIVDAVEGVC*PQTQAVLR	C73 C124 ;X ;X ;C73 C124 C73 C124 ;	1.85739667	Q7Z2Z2	3
AQILVLTYPILIGNYGIPPEMDEFGLC*K	X ;C73 ;C73 C73 ;C73 ;	1.85725		3
TIGGGDDSFTTFFC*ETGAGK	C54 C39 ;X ;C54 ;C54 ;	1.85535273	P68366	4
TSGSEDDNAEQAELEPGWVVLDPDAAC*HLQQQEQEPSLPPGWEER	X ;C192 C601 C182 ;X ;C192 C601 C182 ;	1.8541		2
MC*NEFFEGFPDKQPR	X ;C86 ;X ;X ;	1.85225167		2
AC*ANPAAGSVILLENLR	C108 ;C108 ;C108 C108 ;C80 C108 C80 C108 ;	1.84885	P00558	4
GALMANFLTQQQVC*CNGTR	C288 ;X ;X ;C288 ;	1.84775	P49189	3
AVEEYSC*EFGSAK	C56 ;X ;X ;X ;	1.84233	Q00325	3
GFGFVC*FSSPEEATK	X ;X ;C339 C339 C339 C339 C339 ;C339 C339 C339 C339 C314 C339 C307 C339 ;	1.835448		2
SC*PETLTHAVGMSESPIGPK	X ;X ;C648 C888 C991 ;X ;	1.83484		2
TLQNTMVNLGLQNAC*DEAIYQLGLDLEEELEEI EEDAGLGNGLGR	X ;C109 ;X ;X ;	1.83439		3
GMENLLEVQVPEDVEQQLQLDC*R	X ;C368 ;C368 ;C368 ;	1.83162333		3
GLLDVTC*K	X ;C120 ;X ;X ;	1.830885		2
KAAAPAPEEEMDEC*EQALAAEPK	C316 C266 ;C316 C266 ;X ;C316 C266 C316 C266 ;	1.83082712	P26641	4
VIIVQAC*R	C258 C202 C211 C258 C202 C211 C328 C257 C315 C245 C328 C257 C315 C245 ;X ;C258 C202 C211 ;C258 C202 C211 ;	1.83055375	P49662	3
LSSC*DSFTSTINELNHCLSLR	X ;C92 ;X ;C92 ;	1.83042		2
VLVTQQFPC*QNPLPVNSGQAQR	X ;X ;C33 C33 ;X ;	1.82996667		2
TVEEIEACMAGC*DK	C482 ;C482 ;X ;C482 ;	1.82803667	P12955	3
IC*DGVMQFAGIR	C457 ;C457 ;C457 ;C457 C457 ;	1.82405769	Q9Y512	4
SLHDALC*VLAQTVK	C395 ;C395 ;X ;C395 ;	1.82214333	P78371	4
TDICQGALGDC*WLLAAIASLTLNEEILAR	C105 C105 ;C105 ;C105 C105 C105 ;C105 C105 C105 ;	1.82175433	P17655	4
IAVAAQNC*YK	C67 C104 ;X ;X ;C67 C104 ;	1.82068333	P60174	2
VVNSETPVVDFHAWQC*GPKC	X ;C90 C90 ;X ;C90 C90 ;	1.81865667		2
FSFCC*SPEPEAEAEAAAGPGPCER	C27 C27 C27 ;C27 C27 ;C27 C27 ;	1.81860571	E3W990	4
ELETVC*NDVLSLLDK	X ;C97 ;X ;C97 ;	1.81542		2
GFEVVMTEPIDEYC*VQQLK	C521 ;C521 ;C521 ;C521 ;	1.81436556	P08238	4
AVC*MLSNTTAAIEAWAR	C376 C376 C376 C376 C376 C376 C361 C361 C361	1.81215226	P68363	4

	C376 C400 C310 C376 C400 C310 C376 C400 C310 ; C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C400 C310 C376 C400 C310 C376 C400 C310 ;C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C400 C310 C376 C400 C310 C376 C400 C310 ; C376 C376 C376 C376 C376 C376 C376 C400 C310 C376 C400 C310 C376 C400 C310 ;			
NLSDLIDLVPPLC*EDLLSSVDQPLK	X ;C36 C65 C36 C24 C62 ;C36 C65 C36 C24 C62 ;C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 ;	1.810635		3
THEAEIVEGENHTYC*IR	C2199 C2191 C2172 ;X ;C2199 C2191 C2172 ;C2199 C2191 C2172 ;	1.80930667	P21333	4
FPEELTQTFMSC*NLITGMFQR	C389 C339 ;C389 C339 C389 C339 C389 C339 ;C389 C339 C389 C339 ;C389 C339 C389 C339 C389 C339 ;	1.80926368	P26641	4
MYGISLC*QAILDETKGDYEK	C324 ;M318 C324 M318 C324 ;	1.80658345	P04083	4
KHGLEVIYMIPEIDEYC*VQQLK	X ;C529 C651 ;X ;X ;	1.80122		2
ARDC*LIPMGITSENAER	C136 C177 ;C136 C177 ;X ;X ;	1.79845333	C9JDE9	3
VTDDLVC*LVIYK	C48 ;C48 ;X ;C48 ;	1.7968625	P49458	3
LGPGRPLPTFPTSEC*TSDVEPDTR	X ;C73 C73 ;C73 C73 ;X ;	1.796125		3
AILFSQPLQITDTQQGC*IAPVELR	C716 ;C716 ;C716 ;C716 ;	1.796112	Q8NBF2	4
LTALDYHNPAGFNC*KDETEFR	C19 ;C19 ;C19 ;C19 ;	1.79574	Q9Y224	4
PKHEFSVDMTC*GGCAEAVSR	C12 ;X ;X ;X ;	1.79541429	O00244	3
AVASQLDC*NFLK	C193 C207 ;C193 C207 ;X ;C193 C207 ;	1.79504571	P62333	4
AHEILPNLVCC*SAK	C149 ;C149 ;X ;X ;	1.792849	P50990	4
VDDEILGFISEATPLGGIQAASTESC*NQQLDL ALCR	X ;C561 ;C561 C561 ;C561 ;	1.791304		3
AHVVPC*FDASK	C1157 C1157 C1130 ;X ;X ;X ;	1.7896075	P21333	3
SGIQPLC*PER	C341 ;X ;C341 ;C341 ;	1.78811	P42166	3
IYGGSVTGATC*K	C218 C255 ;X ;C218 C255 ;C218 C255 C218 C255 ;	1.78802	P60174	3

QPAIMPQGSYGLEDGSC*SYKDFSESER	C413 C472 ;C413 C472 C89 ;C413 C472 ;C413 C472 ;	1.784705	M0QXS5	4
DGTVLC*ELINALYPEGQAPVKK	X ;X ;X ;C84 C63 C63 ;	1.782218		2
SGANVLICGPNGC*GK	C477 ;X ;C477 ;C367 C477 ;	1.78221	P28288	3
KHPNEIC*VPMSVEFEELLK	C103 ;X ;C103 ;X ;	1.78137667	Q12874	3
IKADPDGPEAQAEAC*SGER	C18 C18 C18 C18 ;C18 C18 C18 ;C18 C18 C18 C18 ;C18 C18 C18 C18 C18 C18 C18 C18 ;	1.77715643	D6RCB9	4
LMGLLSDPELGPAADGFSLLMSDC*TDVLR	X ;C848 C869 ;C848 C869 ;C848 C869 C848 C869 ;	1.77638		3
RPYEDQGLGETTPLTIIC*QPMQPLR	C367 ;C367 ;X ;C367 ;	1.77567667	Q8TF42	4
VLSSSGSEAAVPSVC*FLVPPPNQEAQAVT R	C992 ;X ;X ;X ;	1.77377667	Q15149	2
AGSDGESIGNC*PFSQR	C35 ;C35 ;C35 ;C35 C35 ;	1.772057	Q9Y696	4
GTPEQPQC*GFSNAVQILR	C67 ;C67 ;C67 ;C67 C67 C67 ;	1.77079538	Q86SX6	4
VVMALGDYMGASC*HACIGGTNVR	C131 M121 X ;M121 C131 ;X ;X ;	1.76952333		2
VMTIPYQPMPASSPVIC*AGGQDR	C194 ;M179 C194 ; C194 M179	1.76781941	Q15365	4
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C198 C173 ;C73 C132 C87 C198 C198 C173 ;C73 C132 C87 C198 C198 C173 ;C73 C132 C87 C198 C198 C173 C73 C132 C87 C198 C198 C173 ;	1.76781	M0R383	4
VAHALAEGLGVIAC*IGEKE	X ;C127 C164 ;X ;X ;	1.76577		2
SSVQEEC*VSTISSKDEDPLAATR	C78 ;C78 ;C78 ;C78 C78 ;	1.760775	Q7L0Y3	4
LLPAITILGC*R	C389 C442 ;C389 C442 C389 C442 ;C389 C442 ;C389 C442 ;	1.75674875	Q96IJ6	4
EEHLC*TQR	X ;X ;C233 C208 C143 C270 C212 C233 C217 ;C233 C208 C143 C270 C212 C233 C217 ;	1.75650667		2
EVIQSDSLWLVEFYAPWC*GHCQR	X ;C55 C103 C107 C60 C52 ;C55 C103 C107 C60 C52 ;C55 C103 C107 C60 C52 ;	1.754435		3
LVIVGDGAC*GK	X ;C16 C16 C16 C16 C16 C16 ;X ;C16 C16 C16 C16 C16 C16 ;	1.754315		2
ALANVNIAGLIC*NVGAGGPAPAAGAAPAGGP APSTAAAPAEK	C61 ;C36 C61 ;C61 ;C36 C61 ;	1.75134	P05386	4
C*SDNTEVEVSNLENKQPVESTSAK	C71 C71 ;C71 C71 ;X ;C71 C71 ;	1.7498775	Q9NQW6	3
FFACAPNYSYAALCEC*LR	C513 ;X ;X ;C513 ;	1.747245	Q96RS6	2
AHEILPNLVC*CSAK	X ;C148 ;X ;C148 ;	1.74712667		2

WTQTLSELDAVPC*VNFR	C188 ;C188 ;X ;C188 ;	1.746485	Q9Y266	4
PC*GEDWLSHPLGIVQGFFAQNGVNPDEWEK	X ;C3 C3 ;C3 C3 ;C3 C3 ;	1.746433		3
VLLSIC*SLLCDPNPDDPLVPEIAR	X ;C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;X ;	1.74642		3
HFLSDTGMAC*R	X ;X ;C119 ;C119 C69 ;	1.74472667		2
DMEPEMVCIDSC*GR	X ;X ;X ;C184 ;	1.7442825		2
LEGDLTGPSVGVVEVPDVELEC*PDAK	X ;C1900 ;C1900 ;C1900 ;	1.74419235		3
ANSSVVSUNC*K	C596 ;C596 ;X ;C596 ;	1.74391	O60502	3
VVMALGDYMGASCHAC*IGGTNVR	C134 ;X ; C134 ;X ;M121	1.74320611	P60842	4
FNPVMC*ENIPLDESR	X ;C652 C614 C614 C714 ;X ;C652 C614 C614 C714 ;	1.74293667		2
LVSSPCC*IVTSTYGWTANMER	C590 ;C590 ;X ;C590 C590 ;	1.74278375	P08238	4
GNLNFTC*NGNSVISPVGNR	C24 ;X ;C24 ;C24 ;	1.74272	A0A0B4J2E5	3
AIVLFTSDAC*GLSDVAHVESLQEK	X ;C193 C173 C326 ;X ;C193 C173 C326 C193 C173 C326 ;	1.74222333		2
VWAVLPSSPEAC*GAASLQER	X ;C170 ;X ;C170 ;	1.74195333		2
EGIC*ALGGTSELSSEGTQHSYSEEEK	C104 ;C104 ;C104 ;C104 ;	1.74140875	P13797	4
VLLSICSLLC*DPNPDDPLVPEIAR	X ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;	1.74118167		3
ATSAGSSPSC*SLAGR	C33 C33 ;X ;C33 C33 ;C33 C33 ;	1.74042667	Q9BXB5	3
TFVGTPC*WMAPEVMEQVR	C237 C218 C191 C191 ;X ;X ;X ;	1.73159	Q9UEW8	3
NC*GC*LGASPNLEQLQEENLK	C34 ;C32 C34 ; X ;X ;C32	1.729955		2
TFC*GTPEYLAPEVLEDNDYGR	C310 C248 C311 C249 C307 C307 ;C310 C248 C310 C248 C310 C248 C311 C311 C311 C307 C307 C307 C307 C307 C307 ;C310 C248 C311 C249 C307 C307 ;C310 C248 C310 C248 C311 C249 C311 C249 C307 C307 C307 ;	1.72843214	P31749	4
VDLNSNGFIC*DYELHELK	C33 ;C33 C33 ;X ;C33 ;	1.72422773	P13797	4
DAVLPEQSPGDFDFNEFFNLDKVPCLASMIE DVLGEGSVSASR	X ;C318 C155 C318 C318 ;C318	1.7239075		3

	C155 C318 C318 ;X ;			
C*SEGSFLLTFFRPVTVPEMDQLDDEEGLPE K	C208 ;C119 C208 C119 C208 ;C119 C208 ;	1.72385632	Q15233	4
INQMVC*NSDR	X ;C853 ;X ;C853 ;	1.723605		2
FDPTQFQDC*IIQGLTETGTDLEAVAK	C39 C67 C35 ;C39 C67 C35 C39 C67 C35 ;C39 C67 C35 C39 C67 C35 C39 C67 C35 C39 C67 C35 ;	1.723399	Q7L1Q6	4
LFNTAVC*ESK	C721 ;C721 ;C721 C721 ;C721 ;	1.72208	Q9BXJ9	4
NYLEPGKEC*VQPATK	C888 C997 C970 ;X ;X ;C997 ;	1.72196	H7C5W9	3
LHTAANAAATATETTC*QDVAATPVAR	X ;X ;C33 ;C33 ;	1.71910333		2
GDLENAFLNLVQC*IQNKPLYFADR	C280 ;C280 C262 C280 C262 ;C280 C262 ;C280 C262 C280 C262 ;	1.71884455	P07355	4
TDVNKIEEFLEEVLC*PPK	C100 ;C100 C100 ;X ;C100 C100 ;	1.718598	Q9Y696	4
IDPTVTMMQVEEKPDVTYSVGGC*K	C180 C43 ;X ;X ;C180 C43 ;	1.7182875	P35998	2
TMHLLLEVEVIEGLQC*PESGR	C56 ;X ;X ; C100 M79 C95 M40 X ;M84	1.71784		2
LC*SGPGIVGNLVDPSAR	C245 C245 ;C245 ;C245 ;C245 C245 C245 C245 ;	1.71648	Q9Y5P6	4
VFIMDNC*EELIPEYLNFR	C496 ;M371 C496 ; C374 M493	1.71552348	P07900	4
ISPV DVNSRPSSC*LTN FLLNGR	C349 ;X ;X ;X ;	1.71548	Q9NVM9	2
NDAPEEAGEGC*VAAILGETEVQQFLR	X ;C57 ;C57 ;C57 ;	1.7153125		3
GLYDGPVC*EVSVTPK	C468 C504 ;C468 C504 ;C468 C504 ;C468 C504 ;	1.71470889	Q16555	4
TC*ETGEPMEAESGDTSSGPAQVYLPGR	C11 ;C11 C11 ;X ;C11 ;	1.71451286	Q9BQ67	3
RLDEC*EEAFQGTK	C103 C92 C31 C36 C92 ;C103 C92 C31 C36 C92 ;X ;C103 C92 C31 C36 C92 ;	1.7141775	P61289	3
VGVGTC*GIADKPMQYQDTSK	C214 ;C214 C214 ;X ;C214 C214 ;	1.71399143	O75940	4
TVPFC*STFAAFFTR	X ;X ;C394 C386 ;C394 C386 ;	1.71179667		2
SMVSPVPSPTGTISVPNSC*PASPR	C254 ;X ;X ;C254 ;	1.711052	P85037	3
LHDAIVEVVC*LLR	C470 C483 C483 C483 C470 C470 ;C470 C483 C483 C470 C470 C470 ;C470 C483 C470 C470 ;C470 C483 C483 C470 C470 C470 ;	1.70913692	O00429	4
VADSSPFALELLISDDCFVLDNGLC*GK	C275 C290 C275 C290 ;C275 C290 C275 C290 ;C275 C290 C275 C290 ;C275 C290 ;C275 C290 ;	1.70899111	P40121	4

AHSNPDLPLVDNC*LQSVLGQR	C798 C703 ;X ;C798 C703 ;C798 C703 ;	1.708855	Q5VSL9	4
VAVSADPNVNVVVVTLGLTVC*SSAPGPLELD LTGDLESFKK	X ;C79 C79 C79 ;X ;X ;	1.708068		2
KLDTNSDGQLDFSEFLNLIGGLAMAC*HDSFL K	C91 ;C91 ;C91 ;C91 ;	1.70683455	P31949	4
MC*DFGISGYLVDSVAK	C212 C178 C207 ;X ;X ;C212 C178 C207 ;	1.706095	P46734	4
VSC*AGQMLEVQPGLYFGGAAVAEPDHLR	C23 ;C23 ;C23 C23 ;C23 ;	1.70475375	Q9UNI6	4
LMEPIYLVEIQC*PEQVVGGIYGVLNR	C751 ;X ;C751 ;C751 ;	1.70325667	P13639	3
ETVYC*LNDDETEVLKEDIQGFR	X ;C296 ;X ;C296 ;	1.702772		2
GC*QDFGWDPFCQPDGYEQTYAEMPK	C146 C105 ;X ;C129 C146 C105 ;C129 C146 C105 ;	1.7022925	Q9BY32	4
ELEAVC*QDVLSLLDNYLIK	C97 ;C97 ;C97 C97 ;C97 C97 ;	1.701861	P61981	4
RQVQSLTC*EVDALK	C328 ;C328 ;C328 ;C328 ;	1.70185963	P08670	4
GPFVEAEVDPVDLEC*PDAK	C1833 ;C1833 ;C1833 ;C1833 ;	1.698581	Q09666	4
DC*GGAAQLAGPAEADPLGR	C8 C8 C8 C8 ;C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 ;C8 C8 C8 C8 C8 C8 C8 ;C8 C8 C8 C8 C8 C8 C8 ;	1.69816444	A0A096LP02	4
AWVWNTHADFADEC*PKPELLAIR	C209 C82 C132 C132 C132 C82 ;C209 C82 C132 C132 C132 C82 ;X ;C209 C82 C132 C132 C132 C82 ;	1.6970825	F6WQW2	3
IAVYSC*PFDGMITETK	C244 ;C244 ;C244 C225 ;C244 ;	1.69503563	P50990	4
YAEYFLRPMLQYVC*DNSPEVR	C915 C933 C917 ;X ;C915 C933 C917 ;X ;	1.6928525	O00410	2
CC*SGAIIVLTK	C424 ;X ;X ;X ;	1.69157	P14618	2
GMYGIENEVFLSLPC*ILNAR	C294 ;C294 ;C294 ;C294 C294 ;	1.68832333	P07195	4
YVFNLAELAELVPMYVGIPEC*IK	C416 C295 C173 C357 ;X ;C416 C295 C173 C357 ;X ;	1.6862	J3KN59	3
DIC*NDVLSLLEK	C17 C94 ;X ;X ;C94 ;	1.686148	B0AZS6	2
ISEVFD*WFESESGMPYAQVHYPFENKR	C416 C526 C526 ;C526 ;X ;C526 C526 ;	1.68484438	J3KR24	4
NC*MTDLLAK	C18 ;X ;X ;X ;	1.683165	Q00765	2
GC*WDSIHVVEVQEK	X ;X ;X ;C147 C176 C147 C135 C173 ;	1.68184857		3
EKVETELQGVC*DTVLGLLDSHLIK	X ;C96 ;X ;X ;	1.681125		2
GNEFEDYC*LKR	C102 ;X ;X ;C102 ;	1.67950667	P26196	2
MDILDVLTAAQELSRPGC*LGR	X ;C628 ;C628 ;X ;	1.6779		3
YDC*GEEILITVLSAMTEEAVAIK	C159 C129 C159 C129 ;C159 C129 C159 C129 ;C159 C129 C159 C129 ;C159 C129 C129 C159 C129 C129 ;	1.67702125	P63241	4

FTLDC*THPVEDGIMDAANFEQFLQER	X ;C25 ;X ;X ;	1.675715		2
GANDFMC*DEMERE	X ;C385 ;X ;C385 ;	1.67415		2
YTC*GEAPDYDR	X ;X ;C39 C39 ;C39 C39 ;	1.67345		2
GSEDLFSTC*VTNGPFIMSSNSASAANGNDS KK	C23 C23 C23 C23 ;C23 C23 C23 C23 ;X ;C23 C23 C23 C23 ;	1.67174636	P26599	3
AAVEEGIVLGGGC*ALLR	C442 C442 ;C442 C442 ;C442 C442 ;C442 C442 ;	1.67138529	P10809	4
YKDLEQQDC*EIAQEIQEK	X ;C85 C85 ;X ;C85 C85 ;	1.66815667		2
PC*FYDIDLDTETEQVK	C962 C896 ;X ;X ;X ;	1.66625357	B7ZM99	4
SDLYSSC*DR	X ;C338 ;X ;X ;	1.66567		2
NC*LTNFHGMDLTR	C96 C59 C76 C59 ;C96 C59 C76 C59 ;C96 C59 C76 C59 ;C96 ;	1.662683	P61247	4
MSPLSIVTALVDKIDMC*K	C95 C164 C122 C155 ;C95 C164 C122 C155 ;C95 C164 C122 C155 ;C95 C164 C122 C155 ;	1.662075	Q9Y305	4
FSPLCQWLYLEAADIVESLGKPEC*EEFLPR	X ;X ;X ;C433 ;	1.66182667		3
IRPLNSEGTLNLLNC*EPPR	X ;C1517 ;X ;X ;	1.66143667		2
C*SLPAEEDSVLEK	X ;C652 C635 C635 ;X ;X ;	1.66065		2
LTPGC*EAEAEATEAICFFVQQFTDMEHNR	C2359	1.65883	P49327	4
C*TPACISFGPK	C34 C34 C34 ;X ;C34 ;C34 C34 C34 ;	1.65845	P34932	3
KPTDGASSSNC*VTDISHLVR	X ;C710 C708 ;C369 C644 C710 C708 C138 C342 ;X ;	1.654865		3
VPTANVSVVDLTC*R	C247 ;C247 ;C247 ;C247 C247 ;	1.65377667	P04406	4
VPFLVLEC*PNLK	X ;X ;C14 C14 C14 ;X ;	1.65367667		2
C*EFQDAYVLLSEK	X ;C237 ;X ;C237 ;	1.653416		2
AILQQLGLNSTC*DDSILVK	X ;C813 C812 C801 C817 ;X ;C813 C812 C801 C817 ;	1.65170667		2
VSDTVVEPYNATLSVHQLVENTDETYC*IDNE ALYDIC*FR	C211 ;X ; C193 C201 C211 C201 C211 ;C183 C183	1.65097	Q5JP53	4
GLDYEGGGC*R	C691 ;X ;X ;X ;	1.65081	O60568	2
GTVLLADNVIC*PGAPDFLAHVR	C223 C173 ;C223 C173 ;X ;C223 C173 ;	1.65014857	P21964	4
VGLGIC*YDMR	X ;C153 ;X ;C153 C153 ;	1.649115		2
TAFQEALDAAGDKLVVDFSATWC*GPCK	C32 C32 C32 ;C32 C32 C32 ;C32 C32 C32 ;C32 C32 C32 C32 ;	1.64436947	P10599	4
APELLGC*K	X ;C177 C177 ;C177 C177 ;C177 C177 ;	1.64233667		3
GFVTMTLESLEEIQDVSC*AWK	C603 ;X ;C603 C603 ;C603 ;	1.64176778	Q9BQ39	3
KPASFMTSIC*DER	C845 C835 ;X ;C845 ;C845 ;	1.63892	P53396	3

VC*TLAIIDPGDSDIIR	C92 C92 ;C92 C92 C92 C92 ;C92 C92 ;C92 C92 ;	1.63836556	P62888	4
HELQANC*YEEVKDR	C122 C139 C177 C139 ;C122 C139 C177 C139 ;C122 C139 C177 ;C122 C139 C177 C139 C122 C139 C177 C139 ;	1.63480973	G3V1A4	4
KAGSC*QQGSGPAASAATASPQLSSEIENLM SQGYSYQDIQK	X ;C796 C840 ;X ;C840 ;	1.631225		2
LTWHSC*PEDEAQ	X ;X ;C177 ;C177 ;	1.63076		2
HC*NLLGDELLECLSWR	X ;C120 ;X ;C120 ;	1.6297		2
AEPQC*TSLAWSADGQTLFAGYTDNLVR	C286 ;X ;X ;X ;	1.62797	P63244	2
VLVTTNVC*AR	C392 C310 C393 C361 C302 ;C392 C310 C284 C362 C393 C361 C393 C367 C398 C302 ;C392 C310 C393 C361 C302 ;C392 C310 C393 C361 C302 C392 C310 C393 C361 C302 ;	1.62668571	Q9NUU7	4
NSNVDSYLESYQSC*PR	C645 C767 ;X ;X ;C645 C767 ;	1.62665	Q7Z2W4	3
NLNDQVLFIDQGNRPLFEDMTSDC*R	C70 C74 ;C70 C74 ;X ;C70 C74 ;	1.625382	Q14116	3
LLDRDAC*DTVR	C204 C247 ;X ;C204 C247 ;X ;	1.62504167	Q9NZL4	4
TDC*SPIQFESAWALTNIASGTSEQTK	X ;C133 C133 ;C133 ;C133 ;	1.624462		3
KVIGIEC*SSISDYAVK	C91 C101 C109 C95 C73 C119 ;X ;C91 C101 C109 C95 C73 C119 ;C101 C101 ;	1.62325293	Q99873	4
EITSLDTENIDEILNNADVALVNFYADWC*R	C58 ;C58 ;C58 C58 C58 ;C58 C58 C58 ;	1.62260577	Q9BS26	4
TC*FETFPDK	C326 ;C326 C326 ;X ;X ;	1.62058952	P11216	4
VLGLGLGC*LR	C88 C88 C75 C88 C88 ;C88 C88 C75 C88 C88 ;C88 C88 C88 C88 ;C88 C88 C88 C88 ;	1.62016571	Q9BRJ7	4
ANNNAAVAP TTC*PLQPVTDPFAFSR	C46 C46 ;X ;C46 C46 ;C46 C46 ;	1.61919333	J3KNL6	3
GSQMGTVQPIPC*LLSMPTR	C531 C559 ;X ;C531 C559 C531 C559 ;C531 C559 ;	1.61906667	Q9NZB2	4
C*LHNFLTDGVP AEGAFTEDFQGLR	C316 C268 ;C316 C268 ;C316 C268 C316 C268 ;C316 C268 C316 C268 ;	1.61588091	G3V1A6	4
GSDC*GIVNVNIPTSGAEIGGAFGG EK	C478 C450 ;X ;X ;C478 C450 ;	1.612525	P49419	2
C*DNSSMSLQMGYTQGANQSQV FGLGR	C261 C229 C240 ;X ;X ;X ;	1.61052667	B4DUT8	2
VHIPNDDAQFDASHC*DSDKGEFGGFSVTG K	C141 C97 ;C141 C97 ;C141 C97 ;C141 C97 ;	1.60963455	Q16576	4
IQFNDLQSLLC*ATLQNVLR	C440 C585 ;C440 C585 ;C585 ;C440 C585 C440 C585 C440 C585 ;	1.60947778	Q14974	4

VC*VPSSASALGTASK	X ;X ;C508 C508 ;C508 ;	1.60936		2
VDVEC*PDVNIIEGPEGK	C2806 ;C2806 ;C2806 ;C2806 ;	1.60782875	Q09666	4
VNQAIWLLC*TGAR	X ;C176 C155 C155 ;C176 C155 C155 ;C176 C155 C155 ;	1.60770667		3
TC*NVLVALEQQSPDIAQGVHLDR	C104 ;C104 ;C104 ;C104 ;	1.606587	P31153	4
YVEPIEDVPC*GNIVGLVGVDQFLVK	X ;X ;C466 ;C466 ;	1.606105		2
LLSNMMC*QYR	X ;C156 C160 C160 ;C156 C160 C160 ;C156 C160 C160 ;	1.6043775		3
IEAELQDIC*NDVLELLDK	X ;C96 C94 ;X ;X ;	1.603908		3
WLSDEC*TNAAVFNFLSR	X ;C350 C380 C345 ;X ;C350 C380 C345 ;	1.60332333		2
LVFLAC*CVAPT NPR	X ;C301 ;C301 ;X ;	1.60039667		3
EDSEELGLPDVNP MC*QRPR	X ;C1239 ;X ;C1239 ;	1.59730667		2
AAHTEDINAC*TLTSPR	X ;X ;X ;C657 C637 ;	1.59271		2
LPLC*SLPGEPNGPDQQLQR	C75 ;C75 ;C75 ;C75 ;	1.59259	Q96GX2	4
GYDFC*QVLQWFAER	C175 C175 ;X ;C175 C175 C175 C175 ;C175 C175 C175 ;	1.59199857	Q9H223	3
AFAFVTFADDQIAQSLC*GEDLIK	C244 C244 C244 C244 ;X ;C244 C244 C244 C244 C244 ;C244 C244 C244 C244 ;	1.587838	A0A087X260	3
LPIIGVVENMSGFIC*PK	C235 C85 C224 ;X ;C235 C224 ;X ;	1.587782	P53384	3
SEFYANEAC*KR	X ;X ;C339 C381 C401 C339 ;C339 C381 C401 C339 ;	1.586118		2
NQSFC*PTVNL DK	C70 C70 ;X ;C70 C70 ;C70 C70 ;	1.58523684	E9PLL6	4
DLC*FSPGLMEASHVNDVNEAVQLVFR	X ;C392 C362 ;X ;C392 C362 C392 C362 ;	1.5845575		2
VC*ENIPIVLCGNK	C129 C130 C112 C108 ;C129 C130 C112 C108 ;C129 C130 C112 C108 ;	1.58446167	B5MDF5	4
VNSDC*DSVLPSN FLLGGNIFDPLNLSLLDE EVSR	X ;X ;C177 ;C177 ;	1.581325		2
VRNC*SSPEFSK	C53 C53 C58 ;X ;X ;C53 C53 C58 ;	1.57913	Q99829	3
VPAFEGDDGFC*VFESNAIAYYSNEELR	C118 C68 ;C118 C68 C118 C68 C118 C68 ;C118 C68 C118 C68 ;C118 C68 C118 C68 ;	1.57864423	P26641	4
IIQFQATPC*PK	C298 C299 C300 C313 C278 C299 ;X ;C298 C299 C300 C313 C278 C299 ;C298 C299	1.57824167	Q06330	4

	C300 C224 C313 C278 C299 C238 ;			
VTDGALVVDCVSGVC*VQTETVLR	C136 C136 C136 ;C136 C136 C136 C136 ;C136 C136 C136 C136 ;C136 C136 C136 C136 ;	1.57735111	P13639	4
IYHPNVDENGQICLPIISSENWKPC*TK	C98 ;C98 ;C98 ;X ;	1.57241714	O14933	3
EKLC*YVALDFENEMATAASSSSLEK	C219	1.57075778	P68032	4
IC*DQWDALGSLTHSR	C499 ;C499 ;C499 C499 ;C499 C499 ;	1.56859857	O43707	4
AYHEQLSVAEITNAC*FEPANQMVK	C295 C295 C295 C280 ;X ;X ; C295 C295 ;	1.56778413	P68363	4
FTSC*VAFFNILNELNDYAGQR	C69 C69 C69 C69 C69 C69 ;C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 ;C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 ;C69 C69 C69 C69 C69 C69 ;	1.567217	S4R347	4
GLYGIKDDVFLSVPC*ILGQNGISDLVK	C293 C322 ;C293 C322 ;C293 C322 ;C293 C322 C293 C322 ;	1.56673278	P00338	4
EGILSDEIYC*PPETAULLGSYAVQAK	X ;C117 C117 ;C117 C117 ;C117 C117 ;	1.565808		3
C*GVPDVAQFVLTEGNPR	C92 ;X ;C92 ;C92 C92 ;	1.56579	P03956	3
SC*SPSPVSPQVQQAADTISDSVAVPASLLG MR	X ;C96 C96 ;X ;C96 C96 ;	1.565695		2
VVNEINIEDLC*LTK	C92 ;C92 ;C92 ;C92 ;	1.56500167	Q8N5K1	4
LISPNLGVVFFNAC*EAASR	C342 C316 C342 C316 ;C342 C316 C342 C316 ;C342 C316 ;C342 C316 ;	1.56493444	Q66K74	4
AFDTAGNGYC*R	X ;C223 ;C223 ;C223 ;	1.56384		3
EVFSSC*SSEVVLSGDDEEYQR	C108 ;C108 C108 ;C108 ;C108 C108 ;	1.56259286	Q09666	4
SC*LSPKPPQGQEQQQEDEVVLVEGPTLPE TPR	X ;C232 ;X ;C232 ;	1.56177		2
AITIAGIPQSIIEC*VK	X ;C158 C158 C158 C158 ;X ;C158 C158 ;	1.56131		2
DTC*YSPKPSVYLSTPSSASK	X ;X ;C540 ;C540 C540 ;	1.56113		2
DQVAQLDDIVDISDEISPSVDDLALSIYPPMC* HLTVR	C300 ;X ;X ; X ;M299	1.560875		2
VWNLANC*K	X ;C182 ;C182 ;C182 ;	1.56042		3
SSSSVTTSETQPC*TPSSSDYDLQR	C334 ;C334 ;C334 ;C334 ;	1.55923143	P50552	4
DSAQC*AAIAER	X ;C347 C376 ;C376 ;X ;	1.55879		2
YSDVEVPASVTGYSFASDGDSGTC*SPLR	X ;C430 C430 C430 C430 C430 C430 C430 C430 ;C430 C430 C430 C430 C430 C430 C430 C430 ;C430 C430 C430 C430	1.558376		3

	C430 C430 C430 C430 ;			
STGVVNIPAAEC*LDEYEDDEAGQKER	C119 C173 ;X ;C119 C173 ;C119 C173 C119 C173 ;	1.55701462	H0Y116	4
YC*VRPNSGIIDPGSTVTVSVMLQPFDYDPNE K	X ;C60 C60 ;C60 C60 ;C60 C60 ;	1.55630583		3
LEGDLTGPSVDVEVPDVELEC*PDAK	X ;C2162 ;X ;X ;	1.55352545		3
VSMILQSPAFC*EELESMIQEQFKK	C68 C68 C68 C68 C68 C68 C68 C68 C68 ;C68 C68 C68 C68 C68 C68 C68 C68 ;C68 C68 C68 C68 C68 C68 C68 C68 ;C68 C68 C68 C68 C68 C68 C68 C68 ;	1.55276	P35611	4
SLLETNEIPSLILWGPPGC*GK	X ;C272 C52 C272 ;C272 C52 C272 ;C52 C272 ;	1.55266667		3
IGFPETTEEELEEIASENSDC*IFPSAPDVKA	X ;C340 C353 ;C340 C353 ;X ;	1.55071133		3
TGC*TFPEKPDFH	X ;X ;C353 C336 ;X ;	1.5500575		2
MSDSADKPIDNDAEGVWSPDIEQSFQEALAIY PPC*GR	C53 C53 C38 C53 C144 ;X ;X ;C53 C53 ;	1.549304	P28347	3
VIGSGC*NLDSAR	C163 C192 C164 ;C163 C192 C164 ;C164 C163 C192 ;C164 C163 C192 ;	1.54830286	P00338	4
DVIELTDDSFDKNVLDSDEVWMVEFYAPWC* GHCK	C190 C238 C242 C195 C187 ;C190 C238 C242 C195 C187 C190 C238 C242 C195 C187 ;C190 C238 C242 C195 C187 C190 C238 C242 C195 C187 ;X ;	1.54809451	Q15084	4
AGKPVIC*ATQMLESNIK	C326 C326 ;C326 C326 ;C326 C326 ;C326 ;	1.54414	P14618	4
NCGC*LGASPNLEQLQEENLK	X ;X ;X ;C34 ;	1.5427525		3
DASALLDPMEC*TDAAEQR	X ;C287 C287 ;X ;X ;	1.54267429		3
DVIELTDDSFDKNVLDSDEVWMVEFYAPWCG HC*K	C245 M187 C190 ;X ; C198 M179 C190 ;X ;M182 C241 M234 C193 M230	1.54104	Q15084	3
FSHQGVQLIDFSPC*ER	C384 C384 ;C384 C384 ;C384 C384 ;C384 C384 ;	1.5395875	P55884	4
NTPLC*DSFVFR	X ;X ;C429 ;C429 ;	1.538205		2
NC*LNPQFSK	X ;X ;C54 ;C54 ;	1.5358		2
AFTEANDGSLC*LAMEYGGEK	C112 C112 ;X ;X ;C112 ;	1.53571667	Q96KB5	2
VPADTEVVC*APPTAYIDFAR	C42 C79 ;C42 C79 ;X ;C42 C79 ;	1.5347125	P60174	4
APPPSLTDC*IGTVDSR	C20 C20 ;C20 C20 ;X ;C20 C20 ;	1.530842	Q9NZZ3	3
IGLIQFC*LSAPK	X ;C252 C222 ;X ;C252 C222 ;	1.53002		3
LVMEYLAICDEC*YITEMEMLLNEK	C525 ;X ;X ;C525 ;	1.528625	P41250	2
VAC*ITEQVLTLVNK	C477 ;X ;C477 ;X ;	1.52712	P04843	4

VYQPVSC*PLSDLSENVESVNEEK	X ;C506 C566 C374 C251 ;X ;C506 C566 C374 C251 ;	1.52522		2
AGEGTYALDSESC*MEK	C272 C255 C272 ;C272 C272 ;X ;C272 C272 ;	1.52354167	O00541	3
ENSTLNC*ASFTAGIVEAVLTHSGFPAK	X ;C139 ;C139 ;C139 ;	1.5221675		3
EFC*SYLQYLEYLSQNRPPPNAYELFAK	X ;X ;C261 C278 ;X ;	1.521294		3
MQHLNPDQPQLIPEQITTDITPEC*LVSPR	C520 C520 C520 ;C520 C520 C520 ;X ;C520 C520 C520 C473 ;	1.52053	Q96AC1	3
FSNPYSIEYSELDC*EEGWTQLK	C140 ;X ;X ;C140 ;	1.51827	O14879	2
NDITAWQEC*VNNSMAQLEHQAVR	X ;C106 ;X ;C106 ;	1.517582		2
IECSDNGDGTC*SVSYLPTKPGYFVNILFEEV HIPGSPFK	X ;C1095 C1095 C1095 C1095 C1095 C1095 ;C1095 C1095 ;X ;	1.51695		2
YEAAPFLSPC*GR	X ;C143 C98 ;C143 C98 ;C143 C98 C143 C98 ;	1.51689273		3
ENFDEVVNDADIILVEFYAPWC*GHCK	C206 C206 ;C206 ;C206 C206 ;C206 C206 ;	1.51670412	P13667	4
LTHNCLNDFDFIGTSTDESSDLC*TVQIPTSW R	C244 C245 ;C244 C245 ;X ;C244 C245 ;	1.51604	Q9UIA9	3
DHQPC*IIFMDEIDAIGGR	X ;C228 C242 ;C228 C242 ;C228 C242 ;	1.515982		3
LVSSPC*CIVTSTYGWTANMER	C589 ;C589 ;C589 ;C589 C589 ;	1.51519	P08238	4
FLGPEIFFHPEFANPFFTQPISEVVDEVIQNC* PIDVR	X ;X ;C307 C256 ;C307 C256 ;	1.51369		2
SEGGFIWAC*K	X ;C269 ;X ;C269 ;	1.51309		2
GIFPVLC*KDPVQEAWAEDVDLR	C474 C474 ;C474 C474 C474 C474 ;X ;C474 C474 ;	1.5110825	P14618	4
SVLC*STPTINIPASPFMQK	X ;C22 C22 ;C22 ;C22 ;	1.50947333		3
SHIMPAEFSSC*PLNSDEEVNK	X ;C226 C207 C115 C167 ;X ;C226 C207 C207 C115 C115 ;	1.50723667		2
LVMSYVAAVC*GK	X ;C129 C129 C129 ;X ;C129 C129 C129 ;	1.50686667		2
INISEGNC*PER	C54 C54 C54 C54 C54 ;C54 C54 C54 C54 C54 C86 C86 C54 C86 C62 C86 ;C54 C54 C54 ;C54 C54 C54 ;	1.503045	Q15365	4
LVTSPC*CIVTSTYGWTANMER	C597 C719 ;X ;X ;C597 C719 ;	1.4966475	P07900	3
ADELLC*WEDSAGHWLYE	X ;X ;X ;C74 C158 ;	1.4965575		3
TASLELGEDDDEQEDDDIEYFC*QAVGEAPSE DLFPEAK	X ;C338 C391 C391 C391 C391 C391 ;X ;C391 C391 C391 C391 C391 ;	1.496414		2
LC*VQNSPQEAR	X ;C141 C150 C150 C150 C150 ;C150 C150 C150	1.494585		3

	;C141 C150 C150 C150 C150 C141 C150 C150 C150 C150 ;			
GLNPLNAYSDLAEFLETEC*YQTPFNK	C343 ;C343 ;X ;C343 ;	1.49389917	O14879	4
SPAEC*LSEK	X ;X ;X ;C573 C364 C520 ;	1.49164875		2
FHADSVC*K	X ;X ;C25 ;X ;	1.491465		2
ILYLDSSSEICFPTVPGC*PGAWDVDSNPQR	X ;C611 ;C611 C621 ;C611 C621 ;	1.48983		3
HLFC*PDLLR	X ;C22 C22 C22 C22 C22 ;C22 ;X ;	1.48938333		2
EGTDSSQGIPQLVSNISAC*QVIAEAVR	X ;C29 ;X ;C29 ;	1.48491714		3
VSDTVVEPYNATLSVHQLVENTDETYCIDNEA LYDIC*FR	C193 C193 C193 C211 C211 C211 C211 C211 C211 C211 C211 C211 ;C193 C193 C211 C211 C211 C211 C211 C211 C211 C211 ;C193 C193 C193 C211 C211 C211 C211 C211 C211 C211 C211 C211 ;C193 C211 C211 C211 C211 ;	1.48413656	Q5JP53	4
ESSMGDPMEALALC*SGSFPTDK	C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 ;C928 C917 C981 C981 ;X ;C928 C917 C981 C981 ;	1.484072	E7ESG2	3
MLPTYVC*ATPDGTEKGDFLALDLGGTNFR	C517 ;C517 ;X ;X ; X ;C620 ;X ;C610 C620 ;	1.48381091	P52789	3
VMAEANHFIDLQIPIC*NGK	X ;C620 ;X ;C610 C620 ;	1.4812675		2
IIDINYYPVPEAC*LSNKR	C492 ;C492 ;C492 ;C492 ;	1.48002143	P23921	4
FLENTPSSLNIEDIEDLFLSLAQYYC*SK	C283 C146 C283 ;C283 C283 C283 C283 C283 C283 ;C283 C146 C283 C283 C146 C283 C283 C146 C283 ;C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 ;	1.4770032	Q9NUY8	4
DLNYC*FSGMSDHR	C267	1.476753	G8JLB6	4
KLTAGAAC*AQGLVTEVFPDSTFQK	X ;C282 C312 C277 ;X ;X ;	1.47552		2
LNDDWAYGNLDARPWDFAEEC*ALR	X ;C769 C674 ;X ;X ;	1.470345		2
LC*DFGISGQLVDSIAK	C246 C257 ;X ;X ;X ;	1.4699475	P45985	2
VHVGQAGVQMGAC*WELYCLEHGIQPDGQ MPSDK	C20 ;X ;X ; C20 ;M16	1.46963667	P68366	3
IISNASC*TTNCLAPLAK	C152 C152 C152 ;C152 C152 C152 C152 ;C152 C152 C152 C152 C152 ;C152 C152 C152 C152 ;	1.46350855	P04406	4
HLGGIPWTYAEDAVPTLTPC*R	C268 ;X ;C268 ;X ;	1.461944	P31930	3
SGQGAFGNMC*R	C96 C96 ;X ;C96 ;C96 C96 ;	1.45855077	P36578	4

GTLTLC*PYHSDR	C779 ;X ;C779 ;C779 ;	1.45482875	Q13200	3
VDVFREDLC*TK	C22 ;C22 ;C22 ;C22 ;	1.45422	Q06323	4
AGAVVAVPTDTLYGLACAASC*SAALR	C99 ;C99 ;C99 ;C99 ;	1.45369571	Q86U90	4
TIAEC*LADELINAAK	C193 C172 C172 ;X ;X ;C193 C172 C172 ;	1.45196	M0R0R2	2
DEFTNTC*PSDKEVEIAYSDDAK	C234 ;C234 ;C234 ;C234 ;	1.45026	Q9Y696	4
EACPELDYFVVFSSVSC*GR	C2024 ;X ;X ;C2024 ;	1.44947333	P49327	2
IGEGLDQALPC*LTELILTNNSLVELGDLPLA SLK	X ;X ;C89 C89 ;C89 C89 ;	1.4489525		2
HSVTGYGDC*AVGAR	X ;X ;C270 C44 ;C270 ;	1.44606		2
SNTGGQAFPQC*VFDHWQILPGDPFDNSSRP SQVVAETR	C812 ;C812 ;C812 ;X ;	1.44415	P13639	3
AC*ADATLSQITNNIDPVGR	C25 C25 C25 ;X ;X ;X ;	1.4432	P62873	2
LSEAAC*EDEDSEGLGELFLDGLSTENPHG AR	X ;C238 C238 ;X ;C238 C238 ;	1.4426825		2
KC*PFYAAEQDK	C236 C265 C319 ;X ;C236 C265 C319 ;C236 C265 C319 ;	1.44162571	P30519	4
ETNDDNYGPGPSLRPPNVAC*WR	X ;C179 C177 C179 C177 C177 C177 C177 ;X ;X ;	1.440915		2
TAC*TNFMMPYVTR	X ;X ;C177 C177 C177 C177 ;C177 C177 ;	1.439565		2
C*ASQSGMTAYGTR	C196 C164 C175 ;C175 ;X ;X ;	1.439481	B4DUT8	4
ITSC*IFQLLQEAGIK	C63 ;C63 C63 ;C63 ;C63 C63 ;	1.437055	P22234	4
C*NYLALVGGGK	C63 ;X ;C56 C63 C63 ;C63 ;	1.43635	Q5MNZ6	4
AINC*ATSGVVGLVNCLR	C1448 ;C1448 ;C1448 ;C1448 ;	1.43477	P49327	4
SIQFVDWC*PTGFK	C347 C347 C347 C347 C332 C332 ;C347 C347 ;C347 C347 C347 ;C347 C347 C347 ;	1.433974	P68363	4
NC*NDFQYESK	X ;X ;C112 ;X ;	1.433825		2
VC*FGIQLLNAVSR	X ;C102 C218 C208 C182 C188 ;X ;C218 C208 C188 ;	1.43209667		2
SC*PSFSASSEGTR	C9 C9 ;C9 C9 ;C9 C9 C9 ;C9 C9 ;	1.42464923	D6RFG8	4
QLFALSC*TAEQGVLPDDLGSVIR	C96 C112 C96 C75 C112 C60 ;C96 C112 C96 C75 C112 C60 ;C96 C112 C96 C75 C112 C60 ;C96 C112 C96 C75 C112 C60 ;	1.42387333	P04899	4
NGLQSC*PIKEDSFLQR	C1058 ;C1058 ;C1058 ;X ;	1.421858	P00533	4
ATELFVQC*LATYSYR	C55 ;X ;C55 ;C55 ;	1.421825	Q9NRG0	3
AQQEQLLLKQLQQQQPPSQC*TAPASS HER	X ;C385 C527 C296 C385 C527 C345 ;X ;C385	1.41994333		3

	C527 C296 C385 C527 C345 ;			
IEC*SDNGDGTCSVSYLPTKPGYFVNILFEEV HIPGSPFK	X ;X ;X ;C1087 C1087 C1087 C1087 C1087 C1087 ;	1.41889		3
LECVENPC*R	C77 C77 C77 C77 C113 ;C77 C77 C77 C77 C113 ;X ;C77 C77 C77 C77 C113 ;	1.414868	H7BZ11	3
IIPBLEEGLQLPSPTATSQLPLESDAVEC*LNY QHYK	C132 C132 ;C132 C132 ;C132 C132 ;C132 C132 ;	1.41424	P61978	4
WHLC*PTLYESR	X ;C263 C222 C264 ;X ;X ;	1.412475		2
AVSTGVQAGIPMPC*FTTALSFYDGYR	X ;X ;C409 C422 ;C409 C422 ;	1.411955		2
SASLDNGGC*ALTTFSVLEGEK	X ;X ;X ;C34 C27 C92 ;	1.411234		2
ISGLPVGAVINC*ADNTGAK	C28 C32 C28 ;C28 C28 C32 C28 C28 C28 C32 C28 ;C28 C28 ;C28 C32 C28 ;	1.41078391	J3KT29	4
KC*TLDQAFR	X ;X ;C49 C49 C49 C32 ;X ;	1.410415		2
VVTAGAIIPFLAPGQSLPDSLMOFGGATPWT PLSAC*GEPGTR	X ;X ;C403 C403 C368 C403 ;C403 C403 C368 C225 C403 ;	1.40971667		2
SC*GSSTPDEFPTDIPGTK	C105 ;C105 ;C105 ;C105 ;	1.40856222	P41091	4
VEQNSEPC*AGSSSESDLQTVFK	X ;C260 C184 ;X ;C260 C184 ;	1.407785		2
LLEQAEAEGC*QR	X ;C326 ;X ;C326 ;	1.405685		2
NAEDC*LYELPENIR	X ;X ;X ;C145 C70 ;	1.40503		2
AFC*GFEDPR	X ;C4380 C4494 ;C4380 C4494 ;C4494 C4384 C4361 C4380 C4343 C4325 C4357 C4335 C4357 ;	1.40029		3
ATGNLSASC*GSALR	X ;X ;C81 C81 ;C81 ;	1.40015333		2
METYC*SSGSTDSPVIDAVTHALTATTPYTR	C201 M284 C288 ;M284 C288 ;M197 C288 ;	1.3975132	Q02338	4
RPLNPLASGQGTSEENTFYSWLEGLC*VEK	C241 ;C241 ;C241 ;C241 ;	1.3955775	Q96HE7	4
LEKPNEGYLEFFVDC*SASATPEFEGR	X ;C85 ;C85 ;C85 ;	1.39517		3
SSILLDVKPWDETDMAQLEAC*VR	C193 C92 C174 C217 C583 C198 C217 C57 C633 C583 ;C217 C583 C217 C633 C583 ;X ;X ;	1.39467333	P29692	2
GAEPETGSAVSAQC*QGPTR	X ;X ;C67 C90 C69 ;C67 C90 C69 ;	1.39321		2
STC*SLTPALAAHFSENLIK	X ;C508 C553 ;C450 C508 C553 ;C450 C508 C553 ;	1.39189		3
C*DQDAQNPLSAGLQGAQLMETVELLQAK	X ;C245 C124 C242 C240 ;X ;C240 C245 C124 C242 C240 C240	1.39165		2

	C245 C124 C242 C240 ;			
IDPENAEFLTALC*ELR	X ;C428 C476 ;C428 C476 ;X ;	1.391345		2
LC*YVALDFEQEMATAASSSSLEK	C217	1.39101046	P60709	4
GEFYVIEYAAC*DATYNEIVTFER	C50 C14 C99 C86 C99 C14 C50 C14 C99 C86 C99 C14 ;C50 C14 C99 C86 C99 C14 C50 C14 C99 C86 C99 C14 ;C50 C14 C99 C86 C99 C14 C50 C14 C99 C86 C99 C14 ;C50 C14 C99 C86 C99 C14 C50 C14 C99 C86 C99 C14 C50 C14 C99 C86 C99 C14 ;	1.38841133	E9PFF5	4
ECISIHVGQAGVQIGNAC*WELYCLEHGIQPD GQMPSDK	C20 C20 ; C20 C20 C20 ; C20 C20 ; C20 C20 ;	1.38758111		4
DTGTVHLNELGNTQNFMLLC*PR	X ;C126 ;X ;C126 ;	1.385045		2
SSTETC*YSAIPK	C2436 ;C2436 C2532 C2460 C2477 C2490 C2501 ;C2436 C2477 ;C2436 C2532 C2460 C2477 C2490 C2501 ;	1.384025	O75369	4
EMFPYEASTPTGISASC*R	C363 C323 ;C363 C323 C254 ;X ;C363 C323 ;	1.38286	P42167	3
LIDFLEC*GK	X ;C234 C234 ;C234 C234 ;C155 C234 C234 ;	1.38171667		3
AYHEQLTVAEITNAC*FEPANQMVK	;C295	1.38094256		4
GIDQC*IPLFVEAALER	C757 ;X ;C757 ;C757 ;	1.38049	O95373	3
LVILANNC*PALR	X ;X ;C52 C52 ;X ;	1.377145		2
EGILNDDIYC*PPETAVLLASYAVQSK	X ;C117 ;C117 C117 ;C117 ;	1.37361		3
NVVTIFSAPNYC*YR	X ;X ;C266 C266 ;X ;	1.37337		2
TVLCGTC*GQPADK	C561 C591 C591 ;X ;C479 C492 C561 C187 C591 ;C479 C492 C561 C187 C591 C591 ;	1.3701825	P02545	3
CPEALFQPSFLGMESC*GIHETTFNSIMK	C272 C272 ;C272 C272 ;X ;C272 C272 ;	1.369651	P60709	4
ACLDYPVTSVLPPASLC*K	X ;C81 C60 C81 ;X ;X ;	1.369595		2
LALDCSGQQVAVDLFLLSGQYSDLASLGC*IS R	X ;X ;C704 C704 ;C704 C704 C704 ;	1.367825		2
GNHEC*ASINR	C126 C136 C127 C127 C127 C138 C127 ;X ;C127 C138 C126 ;C127 C138 C126 ;	1.367205	P62140	3
INPYMSSPC*HIEMILTEK	C144 C144 C144 C106 C144 C134 C106 C144 C144 ;C144 C144 C144 C106 C144 C134 C106 C144 C144	1.36527	A0A087WXM6	4

	;C144 C144 C144 C106 C144 C134 C106 C144 C144 ;C144 C144 C144 C106 C144 C134 C106 C144 C144 ;			
EPFDLGEPEQSNGGFPC*TTAPK	X ;C213 C277 C229 ;X ;C213 C277 C229 ;	1.36314		2
AKVDEFPLC*GHMVSDEYEQLSSEALEAAR	C49 C49 ;C49 C49 ;X ;C49 ;	1.36303717	X1WI28	4
GVLlyGPPGC*GK	C137 C137 ;X ;C137 ;X ;	1.36268667	Q8NBU5	3
LLAPDC*EIIQEVGK	C215 ;C215 ;C215 ;C215 ;	1.36232174	Q9NQT5	4
AVC*MLSNTTAVAEAWAR	;C376 ; ;C376 C376 ;	1.3616		4
LQEALDAEMLEDEAGGGGAGPGGAC*K	C57 ;C57 C57 C57 C57 ;C57 ;C57 C57 ;	1.35642308	Q1KMD3	4
NFNyHILSPC*DLSNYDLAMSTVK	C461 C498 ;C461 C498 ;C461 C498 ;C461 C498 ;	1.3535725	G5E9W3	4
SC*SGVEFSTSGSSNTDTGK	C47 C47 ;C47 C47 C47 C47 ;C47 C47 ;C47 C47 ;	1.34903316	A0A0A0MR02	4
YTIVVSATASDAAPLQYLAPYSGC*SMGEYFR	C294 C244 C272 ;X ;X ;X ;	1.34503	P25705	2
ENFSLDWC*K	C117 ;X ;X ;X ;	1.34085	P23919	4
QQYLC*QPLLDVLANIR	X ;X ;C552 C507 C578 C618 C552 C507 C578 C618 ;C552 C507 C578 C618 ;	1.33793667		2
ESLNASIVDAINQAADC*WGIR	X ;C121 C167 ;X ;X ;	1.3378775		2
PGHLQEGFGC*VVTNRFDQLFDDSDPFVFL K	C11 C11 C11 C11 C11 C11 C11 C11 ;C11 C11 C11 C11 ;C11 C11 C11 C11 C11 C11 C11 C11 ;C11 C11 C11 C11 ;	1.3375325	Q8NC51	4
SVPC*DSNEANEMMPETPTGSDPQPAPK	X ;C16 ;X ;X ;	1.33752		2
VELC*SFSGYK	X ;C6 C6 C6 ;C6 C6 C6 ;C6 C6 C6 ;	1.33702333		3
AQNTWGC*GNSLR	X ;X ;C410 C423 C522 C148 C522 ;C410 C423 C522 C148 C522 C522 ;	1.33679		2
GVPGAIVNVSSQC*SQR	C138 ;X ;C138 C138 ;C138 ;	1.33493222	Q7Z4W1	3
AFQYVETHGEVC*PANWTPDSPTIKPSAASK	C229 ;C211 C229 ;X ;C229 ;	1.331953	P30048	4
TCDGVQC*AFEELVEK	X ;X ;C160 C273 C136 C189 ;C160 C273 C136 C189 ;	1.3317		2
KAQC*PIVER	C87 C66 C66 ;X ;X ;C87 C66 C66 ;	1.33084167	M0R0R2	3
IHQc*ISINMLADKLNMTPEEAER	X ;C350 ;C350 ;X ;	1.32893		2
IC*DDELILIK	C357 ;X ;C357 C357 ;X ;	1.32814	P17987	3
KC*GETAFIAPQCEMPIEWVCR	C81 ;C81 C81 ;C81 ;C81 ;	1.32805625	P22234	4
TSSVSNPQDSVGSPC*SR	C108 C106 C108 C108 ;X ;C108 C106 C108 C108	1.32720833	P49023	3

	;C108 C106 C108 C108 ;			
YFTQGNC*VNLTEALSLYEEQLGR	C265 C318 ;C318 ;C265 C318 ;C265 C318 C265 C318 ;	1.3259625	P52788	4
IC*ELLPEAAINDVYLAPLLQCLIEGLSAEPR	X ;X ;C436 ;C291 C436 ;	1.32245714		2
ELELMFGC*QVEGDAAETPPRPR	C277 ;C277 ;C277 ;C277 C277 ;	1.32231143	Q02750	4
HDDSSDNFC*EADDIQSPEAEYVDLLNPER	X ;C166 C166 ;C166 ;C166 C166 ;	1.32156286		3
LTAEFEEAQTSAAC*R	X ;C1320 C1323 C260 C847 C890 C664 C1323 ;X ;C1320 C1323 C260 C847 C890 C664 C1323 ;	1.320095		2
VC*NFLASQVPFPSR	C214 ;C214 C205 ;C214 ;C214 C205 ;	1.31925083	Q99714	4
ALVDGPC*TQVR	C42 C42 ;C42 C42 ;C42 C42 ;C42 C42 ;	1.314165	E7EPB3	4
VRPSTGNSASTPQSQC*LPSEIEVK	C131 C131 ;X ;C131 C131 ;C131 C131 ;	1.313605	Q9UJX3	3
GDLNDCFIPC*TPK	C147 C203 ;C147 C203 ;X ;C147 C203 ;	1.3119	P11586	3
VWELGGC*ANK	C253 ;C253 ;X ;C253 ;	1.3116875	P08240	3
C*DENILWLDYK	X ;C152 C152 ;X ;X ;	1.31013667		2
YGAVDPLLALLAVPDMSSLAC*GYLR	X ;X ;C223 ;X ;	1.30405167		2
VTFSC*AAGFGQR	X ;X ;C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;	1.30395		2
HFVLDEC*DK	X ;X ;C197 ;X ;	1.30389667		2
GC*TATLGNFAK	C229 ;C229 ;C229 C229 ;X ;	1.30297714	P15880	4
SSGC*FPNMAAK	C460 ;C460 ;X ;C460 ;	1.301088	Q96I24	3
GVLMPGPPGC*GK	C210 C179 ;C210 C179 ;C210 C179 ;X ;	1.300865	P43686	4
LFFIQAC*R	X ;C186 C271 C161 C219 ;C186 C271 C161 C219 ;X ;	1.30022		2
C*MPTFQFFK	X ;C73 ;X ;C73 ;	1.295995		2
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;C498 C662 C669 C622 C466 C575	1.294502	Q04637	4

	;C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;			
LHIVQVVC*K	C191 ;C191 ;C191 ;X ;	1.292132	O00299	3
HGEVC*PAGWKPGSETIIPDPAGK	X ;C245 ;C245 ;X ;	1.288915		2
VTEAPC*YPGAPSTEASGQTGPQEPTSAR	C523 ;X ;X ;C523 ;	1.28515	P40222	3
VSLDPELEEALTSASDELTC*DLAAILGMHNLITNTK	C132 ;X ;C132 ;X ;	1.28294692	Q9NYL9	4
TGC*VDLTITNLLGAVAFMPEDITK	C391 C325 C325 C391 C325 C325 ;C325 C325 ;C391 C325 C325 C391 C325 C325 C391 C325 C325 ;C391 C325 C325 C391 C325 C325 C391 C325 C325 C391 C325 C325 ;	1.28065857	Q9Y679	4
IC*QADIVEAVDIASAAK	X ;X ;X ;C107 C107 C172 C107 ;	1.27743667		2
VC*NYGLTFTQK	C65 ;C65 ;C65 ;X ;	1.27742444	Q9Y277	4
TAGQPEGGPGADFGQSC*FPAEAGR	C302 C258 C254 ;C302 C258 C254 ;X ;C302 C258 C254 ;	1.274004	Q14694	3
SEGTYCC*GPVPVR	X ;C371 ;X ;C371 ;	1.271103		2
YAC*GLWGLSPASR	C457 ;X ;C457 C175 ;C457 C175 ;	1.26948167	Q15637	3
SEGTYC*CGPVPVR	C370 ;C370 ;C370 ;C370 ;	1.263813	P21980	4
YYGGAEVVDEIELLC*QR	X ;C98 C119 ;X ;X ;	1.26288		2
EC*EGIVPVPLAEK	C105 ;C105 ;C105 ;C105 ;	1.2619675	P82932	4
ALNALC*DGLIDELNQALK	C62 ;X ;C62 ;C62 ;	1.26024333	P30084	3
EGC*TVSPETISLNVK	X ;X ;C393 C394 C376 C430 C412 C375 ;C393 C394 C376 C430 C412 C375 ;	1.25943		2
AAAPAPVSEAVC*R	C450 C408 C408 C491 C394 C456 C290 C160 C151 C166 C386 C373 C454 C367 C131 C394 C336 C131 C469 C123 C472 C395 ;X ;X ;C450 C408 C408 C491 C394 C456 C386 C373 C454 C367 C394 C469 C472 C395 ;	1.25683286	P20810	3
HIC*LC*ARQYIHLIYVYTLVYAFCY	C40 ; C40 ;C38 X ;X ;C38	1.253035		2
VLFPGCTPPAC*LLDGLVR	C440 C414 ;C440 C414 ;C440 C414 ;C440 C414 ;	1.25240833	Q66K74	4
NVC*LPPEMEVALTEDQVPALK	C535 C552 C535 C535 ;X ;X ;C552 C535 ;	1.25053667	P27816	2

ILDILGETC*K	C224 C225 C225 C225 C156 ;C224 C225 C225 C225 C156 ;C224 C225 C225 C225 C156 ;C224 C225 C225 C225 C156 ;	1.24995833	Q14151	4
NAFAC*FDEEATGTIQEDYLR	C109 ;C109 C109 ;C109 C109 ;C109 C109 ;	1.24446917	O14950	4
AEGSDVANAVLDGADC*IMLSGETAK	X ;C358 C358 ;C358 C358 ;C358 ;	1.24365		3
IINDNATYC*R	X ;C211 ;C211 ;C211 ;	1.23998333		3
AYEYVEC*PIR	C66 ;C66 ;C66 ;C66 ;	1.23876625	P53701	4
EALAEASAWC*YLYGTGSVAGVYLPGSR	C3821 ;C3707 C3707 C3821 C3821 ;C3707 C3707 C3707 C3821 C3821 C3821 ;C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684 C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684 C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684 ;	1.23790882	Q15149	4
VGLPIGQGGFGC*IYLADMNSSESVDAPC VVK	C50 ;C50 ;X ;C50 ;	1.23699571	Q99986	4
FPQDDLC*QYITSDDLTQMLDNLGLK	X ;X ;C196 ;C196 ;	1.23605		2
DKPELQFPFLQDEDTVATLLEC*K	X ;C29 C49 ;X ;X ;	1.235415		2
SLC*NLEESITSAGR	C63 C63 ;X ;X ;X ;	1.23402	Q52LJ0	4
NVTQIEPFC*LETDRR	X ;C594 C630 ;C594 C630 ;X ;	1.23211		3
TREEEC*HFYAGGQVYPGEASR	C51 ;X ;C51 ;C51 ;	1.23065375	Q13162	4
LSGSSLC*SGSWVSADGFLR	X ;C39 C39 ;X ;C39 C39 C32 C39 ;	1.2293725		2
SGDAAIVEMVPGKPMC*VESFSQYPPLGR	X ;C411 ;C411 ;C411 ;	1.22355		3
WC*EYGLTFTEK	C76 C76 ;C76 C76 ;C76 C76 ;C76 C76 ;	1.22294	A0A0A0MR02	4
EGPTALQDSNSGEPDIPPPQDC*GDFR	X ;C125 C71 ;X ;C125 C71 ;	1.22081		2
YFAGNLASGGAAGATSLC*FVYPLDFAR	X ;C129 C129 C129 ;X ;C129 C129 C129 C129 C129 C129 ;	1.21916889		3
LEDVENLGC*R	C329 C329 ;X ;X ;C329 C329 ;	1.2139	Q9UJX3	3
LAPILC*DGTATFVDLVPGR	C568 ;C568 C568 ;C568 C568 ;C568 ;	1.21320333	O43264	4
DVLKEEGVSLINTFEGGGC*GQPSGILAQPT LLYLR	X ;C1229 C1229 ;C1229 C1229 ;C1229 ;	1.20596		3
LC*DFGVSGQLIDSMANSFVGTR	C207 C114 C211 ;C207 C114 C211	1.2043525	Q02750	4

	;C211 C207 ;C114 C211 C207 ;			
PMC*IPPSYADLGK	C13 ;M12 C13 M12 C13 ; C13 ;X ;M12	1.20348889	A0A0A0MR02	4
GLC*ESVVEADLVEALEK	C79 C84 C84 C84 C79 C84 ;X ;X ;C79 C84 C84 C84 C79 C84 C79 C84 C84 C84 C79 C84 ;	1.202894	Q8WVV9	3
TPTKPSSLNNQLVSVDC*K	X ;X ;C991 ;C991 ;	1.20146667		2
MDSC*IEAFGTTK	X ;C200 C138 ;X ;C200 C138 ;	1.19779		2
LNISFPATGC*QK	C12 ;C12 ;C12 ;C12 ;	1.19128714	P62753	4
GNFTLPEVAEC*FDEITYVELQKEEAQK	C648 C629 ;C648 C629 ;C648 C629 C648 C629 ;C648 C629 ;	1.18429267	Q00839	4
NSFYMGTC*QDEPEQLDDWNR	C1907 C771 C1893 C1891 ;C1907 C1893 C1891 ;X ;C1907 C771 C1893 C1891 ;	1.183576	Q14980	3
TC*DGVQCAFEELVEK	X ;C155 C268 C131 C184 ;X ;X ;	1.18129		2
ELDLSNNC*LGDAGILQLVESVR	X ;C409 ;C409 ;C409 ;	1.17047286		3
DPCAAPNEGFC*SAGVQTEAGVADLTWV/GE R	X ;C73 ;X ;C73 ;	1.17003333		2
INPIC*NDHYR	C70 C70 ;X ;C70 ;C70 ;	1.16467333	Q96KB5	3
AC*GNFGIPCELR	X ;X ;C288 ;C288 ;	1.164305		2
IC*PVEFNPNFVAR	C33 C33 C33 ;X ;C33 C33 C33 ;C33 C33 C33 C33 ;	1.16186875	Q9UI30	3
GC*LLYGPPGTGK	C170 C184 ;C170 C184 ;C170 C184 ;X ;	1.15822167	P62333	4
GAFC*DLVWSDPEDVDTWAI SPR	C229 C170 C192 ;C229 C170 C192 C229 C170 C192 ;C229 C170 C192 ;C229 C170 C192 ;	1.15532143	O00743	4
DVQIGDIVTVGEC*RPLSK	C131 ;C131 ;C131 ;C131 ;	1.15042	P62280	4
QVLMGPYNPDTC*PEVGFFDVLGNDR	X ;C129 ;X ;X ;	1.14994		2
ASGC*EGEDVVTLK	X ;C628 ;X ;C628 ;	1.14981		2
LPSALTATAC*K	X ;X ;C633 ;C109 C48 C633 C199 ;	1.14941167		2
YMACC*LLYR	C316 C316 C316 C316 C316 C316 C301 C301 C323 C283 C323 C283 ; C316 C316 C316 C323 C283 ; C316 C316 C316 C323 C283 ;X ;	1.14858765		4
GEASEDLC*EMALDPELLLRDDGEEEFAGAK	C644 C644 ;X ;X ;C319 C336 C107 C644 C644 ;	1.14678154	Q8N163	4
IVVEYCEPC*GFEATYLELASAVK	C33 C33 ;X ;C33 C33 ;C33 C33 ;	1.146732	Q9BRT3	3
STSQGFC*FNILCVGETGIGK	X ;X ;C41 C41 C51 C41 C33 ;C41 C41	1.14581333		2

	C51 C51 C51 C41 C33 ;			
ATVAPEDVSEVIFGHVLAAGC*QNPVR	X ;C65 C94 ;C65 ;C65 C94 C65 C94 ;	1.14459		3
AALAAC*PSSPFPAMPR	X ;C502 C463 ;C502 C463 ;X ;	1.142545		2
C*PEALFQPSFLGMESCGIHETTFNSIMK	X ;C257	1.13874		3
SIC*TTVLELLDK	X ;X ;C94 ;X ;	1.13058333		2
NC*GCLGASPNIQLQEENLK	C32 ;C32 C32 ;C32 ;C32 C32 ;	1.12954063	P54136	4
VTETLWFNLDRPC*VEETELQQQEQQHQAW LQSIK	X ;C24 C24 C24 C24 C24 C24 C24 ;X ;C24 C24 C24 C24 C24 C24 C24 ;	1.12596333		2
SCFLCMVC*K	X ;X ;C40 C40 ;C40 ;	1.12106		2
GC*IVDANLSVLNLVIVK	X ;X ;X ;C100 ;	1.118032		2
LFTEC*SISPK	C68 C68 C68 ;X ;X ;C68 C68 C68 ;	1.10940333	C9JHH5	2
TDIC*QGALGDCWLLAAIASLTLNEEILAR	C98 ;X ;X ;C98 ;	1.10855	P17655	3
WNTDNTLGTEIAIEDQIC*QGLK	C103 C103 ;X ;C103 C103 ;C103 C103 ;	1.106754	A0A0A0MR02	4
TYAIC*GAIR	C56 C56 C56 ;X ;C56 C56 C56 ;C56 C56 C56 ;	1.101108	Q9BYK1	3
DC*NGDTPNLSFYR	X ;X ;C87 C87 C87 C35 ;C87 C87 C35 ;	1.09557333		3
STLTDLSVC*K	C41 ;C41 ;X ;C41 ;	1.09530125	P13639	4
VVLLGEFLHPC*EDDIVCK	X ;C80 C80 ;X ;C80 C80 ;	1.094485		2
EC*LPLIIFLR	C41 C41 ;C41 C41 ;C41 ;C41 ;	1.07351846	P62701	4
HSMNPF*C*EIAVEEAVR	C42 ;M129 C42 M38 C42 M129 C42 ;X ; C133 M38	1.07225333	P38117	4
VGIGPGSVC*TTR	X ;X ;C186 C204 C204 ;X ;	1.07003333		2
ICNEILTSPC*SPEIR	X ;C843 ;X ;C843 ;	1.06611		2
FQSSAVMALQEASEAYLVGLFEDTNLC*A	C111 ;X ;X ;C111 C111 ;	1.06527286	Q71DI3	4
LALQQQLIC*K	X ;C69 C69 ;X ;C69 C69 ;	1.06159		2
EKHEEFCVPMVMVPATVSNVPGSDFSIGAD TALNTITDTC*DR	C563 ;X ;C563 ;C563 ;	1.06046375	Q01813	4
DQC*TGLQGFLVFHSGGGTSGGFTSLLMER	C129 C129 C129 C114 ;X ;X ;X ;	1.05088067		3
C*PFTGNVSIR	C60 ;C60 ;X ;C60 ;	1.042812	P62280	3
EDPTVSALLTSEKDWQGFLELYLQNSPEAC* DYGL	X ;C209 C237 ;C209 C237 C209 C237 ;C209 C237 ;	1.0377825		3
YMAC*CLLYR	C315 C315 C315 C300 C322 C282 ;X ; C315 C315 C315 C315 C315 C315 C322 C282 C322 C282 ; C315 C315 C315 C322 C282 ;	1.03568333		3
YLAEVAC*GDDRK	C134 ;C134 ;X ;C134 ;	1.0351775	P27348	4
YAYLNVVGMVGSIDNDFC*GTDMTIGTDSALH R	C179 ;C179 C179 C179 ;C179 C179 ;C179 ;	1.03429391	Q01813	4

QAVLGAGLPSTPC*TTINK	C119 ;C119 ;C119 ;C119 ;	1.03061875	P24752	4
ITAFVPNDGC*LNFIENDEVLVAGFGR	C90 C90 C90 C90 ;C90 C90 C90 C90 C90 C90 ;C90 C90 C90 C90 ;	1.02037263	P62266	4
NESC*SENYTTDFIYQLYSEEGK	C641 C641 ;C641 C641 ;C641 C641 ;	1.01604063	Q01813	4
ISHESPGSSQC*LLEYLLSR	X ;X ;C45 C52 ;C45 C52 ;	1.01133		2
SQC*QLIDSSDLGMISIQGPASR	X ;C671 C99 C503 C391 ;X ;C671 C99 C503 C391 ;	1.010685		2
AVFPEGPC*EEPLQLR	X ;C660 C900 C660 C655 C655 C900 ;C660 C900 C660 C655 C655 C900 ;C660 C900 C660 C655 C655 C900 ;	1.01034333		3
HLNEIDLFHC*IDPNDSK	C58 C58 C62 ;X ;X ;C58 C58 C58 C62 ;	1.005855	Q15185	2
VGVDYEGGGC*R	X ;C680 C727 ;C680 C727 ;C680 C727 ;	1.00178		3
VICAEEPYIC*K	X ;C456 ;X ;C456 C357 ;	1.00018		2
SC*TVLNVEGDALGAGLLQNYVDR	C467 ;X ;X ;X ;	0.99497	Q15758	2
LVATDGAFSMDGDIAPLQEICC*LASR	X ;C245 C219 ;C245 C219 ;X ;	0.98737		2
GEETPVIVGSALC*ALEGRDPGLK	X ;X ;X ;C222 ;	0.9862675		2
LLDLVQQSC*NYK	X ;C30 C34 ;X ;C30 C34 ;	0.96936667		2
THEDLYIIPINC*DR	X ;C104 C204 ;X ;X ;	0.96597		2
ISGADINSIC*QESGMLAVR	X ;C379 C348 ;X ;X ;	0.96244		2
QNSDFLC*QMDLLQEFYETTLEALKDAK	X ;X ;C130 ;C130 ;	0.945145		2
DWPAQYC*EALADEENR	X ;X ;X ;C283 ;	0.940395		2
FQDTSQYVC*AELQALEQEQR	X ;C1364 ;X ;C1364 ;	0.936095		2
YLEC*SALTQR	X ;C157 C150 C157 C113 C157 C157 C113 ;X ;X ;	0.928695		2
LNGGLGTSMGC*K	X ;C132 C123 C112 C123 ;C132 C123 C112 C123 C112 C123 ;X ;	0.92735		2
ASC*LYGQLPK	X ;C48 ;X ;X ;	0.916845		2
AAAGELQEDSGLC*VLAR	C172 ;C172 ;C172 ;C172 ;	0.913238	Q96C19	4
ISAFGYLEC*SAK	X ;C159 C159 C159 ;X ;C159 C159 C159 ;	0.90402		2
TWYVQATC*ATQGTGLYEGLDWLSNELSK	C159 ;C159 ;C159 C159 ;C159 ;	0.90036778	P18085	4
TNTAVRPYC*FIEFDNFIQR	X ;X ;C111 C111 C111 C111 ;C111 C111 C111 ;	0.895585		2
NHLLPDIVTC*VQSSR	C184 ;X ;C184 ;C184 ;	0.88566429	Q9BSD7	4
LLQDYPTDVC*QILQK	C387 ;X ;X ;C387 ;	0.87475	Q9NVG8	2

FALNNPEMVEGLVLINVNPC*AEGWMDWAAS K	X ;C168 C168 ;C168 C168 ;X ;	0.867535		3
EITAISSVPC*QLLESVLQELK	C704 C645 ;X ;X ;X ;	0.8569625	O75694	4
VRDGLPLSASTDYEQSTGMQEC*R	C33 C33 C33 C33 C33 C33 C33 C33 ;X ;X ;X ;	0.85688	C9J463	2
SDTATGGESAGHATSSQEPSGC*SDQRPAE DLNIR	X ;C186 ;X ;C186 ;	0.85662		2
IC*PVETLVEEAIQCAEK	X ;C213 ;X ;C213 ;	0.855365		2
KFLDGNELTLADC*NLLPK	X ;C178 ;X ;X ;	0.848425		2
LC*SLLDSEYNTCEGAFGALQK	X ;C134 C142 ;X ;C134 C142 ;	0.836315		2
LHTPMYFFLSNLSCVDIC*FTTSVAPQLLVTMN K	X ;C72	0.831345		2
MEAGAGAGAGAAGWSC*PGPGPTVTTLGSY EASEGCERK	X ;C16 C16 ;C16 C16 C16 C16 C16 C16 ;X ;	0.822775		2
AIC*TEAGLMALR	X ;X ;C326 C399 ;C399 ;	0.82148667		2
YINENLIVNTDELGRDC*LINAAK	C147 ;X ;X ;C147 ;	0.81132667	P17987	3
ELADYLC*EDAQQLSLEDTFSTMK	X ;C898 C898 ;X ;C898 C898 ;	0.803315		2
EHINLGC*DMDFDIAGPSIR	X ;C127	0.78040667		2
ASVGFGGSC*FQK	X ;C276 ;C276 C276 ;C179 C276 C209 ;	0.779526		3
LESLQSMEMAHSGSLRDELCLDFPCDSPE K	C388 C183 C259 C389 C394 C386 C321 C270 ;C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 ;C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 ;X ;	0.76894833	Q9NX95	3
AAC*LESAQEPAGAWGNK	X ;X ;X ;C53 C53 C53 C53 C53 C53 C53 C53 C53 ;	0.7626375		2
LLYEALVDC*K	X ;C175 ;X ;C175 ;	0.75362		2
LC*EPEVLNSLEETYSPPFR	C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 ;C261 C261 C261 C242 C261 C224 C261 C227 C261 ;C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 ;X ;	0.730922	G3V516	4
SNELGDVGVHC*VLQGLQTPSCK	X ;C75 ;X ;C75 ;	0.72592		2
DIEDTLSGIQTAGC*GSTFFR	X ;X ;C144 C144 ;C144 ;	0.71878		2
DPETLVGYSMVGC*QR	C135 ;X ;X ;C135 ;	0.69715111	P49327	4
YQIDPDAC*FSAK	X ;C232 ;X ;C232 ;	0.67118667		2
NC*IVLIDSTPYR	C100 C80 ;C100 C80 ;X ;C100 ;	0.60709889	P62241	4
EFCENLSADC*R	X ;C317 ;X ;C317 ;	0.602315		2
YAGLSTC*FR	X ;C300 C300 ;C300 C300 ;X ;	0.59077		2

AQVCQQAHEHSFAGMPC*GIMDQFISLMGQK	X ;C212 C182 ;C212 C182 ;C212 C182 ;	0.573474		3
FMLVLASNLPEQFDC*AINSR	X ;C415 C461 ;X ;C415 C461 ;	0.563595		2
VVEPYNATLSIHQLVENTDETYC*IDNEALYDI C*FR	C211 ;X ;X ;C548 C558 C201 C548 C211 C129 C139 ;	0.54768333	A0A0B4J269	2
GADYMDC*LYR	C116 C122 C103 ;X ;X ;C116 C122 C103 ;	0.543015	A0A0A0MTN0	2
QSLLC*PK	C27 ;X ;X ;C27 ;	0.53455	Q56VL3	3
LVMEYLAIC*DECYITEMEMLLNEK	X ;C522 ;X ;X ;	0.5256		2
FFSLSSVDKLEQIYEC*TDTEVCIVER	X ;C52 C70 C70 C52 ;X ;X ;	0.51339		2
HEASDFPC*R	X ;X ;C32 ;C32 ;	0.472005		2
AHQSESYLPIGC*K	X ;X ;C255 C346 ;C255 C346 ;	0.4608		2
YLISAGEDC*VCLVWSHEGEILQAFR	X ;C308 C278 ;C308 C278 ;X ;	0.43776		2
APYTC*GGDSDQYVLMSSPVGR	X ;C816 ;X ;C816 ;	0.41117		2
C*TVFHGAQVEDAFR	X ;X ;C1828 ;X ;	0.40252		2
FC*DNVWTFVLNDVEFR	C33 C68 ;X ;C68 ;C33 C68 C33 C68 C33 C68 ;	0.398448	A0A0B4J1Z5	3
LTESPC*ALVASQYGWSGNMER	X ;C645 ;X ;C645 ;	0.393125		2
YAIC*SALAASALPALVMSK	C125 ;X ;C125 ;C125 ;	0.37093667	P36578	3
HYLDQLNHILGILGSPSQEDLNC*I	X ;C254 C271 C271 C271 C271 C203 ;C254 C271 C271 C271 C271 C157 C203 ;X ;	0.36522		2
C*ELFDQNLK	X ;C141 C195 C152 ;X ;C157 C195 ;	0.362085		2
GGC*PGGEATLSQPPPR	C22 ;X ;X ;X ;	0.330565	P20290	2
GVGTDEAC*LIEILASR	X ;C261 C294 ;X ;C261 C294 ;	0.316815		2
ATDYPC*LLILDPOQNEFETLR	C145 ;X ;C145 ;C145 ;	0.3153725	Q9NVG8	3
ISDLEIC*ADEFPGSSATYR	C106 C171 C171 C106 ;C106 C171 C171 C106 ;X ;C35 C106 C171 C171 C106 ;	0.27394	A0A087WW35	3
KQC*QLQTAIAEAEQR	C383 ;X ;C383 ;C383 ;	0.27155333	Q5XKE5	3
VSAAALAVILIATALC*APASASPYSSDTPC*C FAYIARPLPR	C33 ;X ;X ;X ;C18 C33 C18	0.23281		2
CINSLQKEPHGEDLLCC*C*CSMV SQK	X ;X ;C79 C63 ;C79 C63 ;	0.19281		2
GGTC*ISMIDYLLWPWFER	C136 C142 C170 ;X ;C136 C142 C170 C136 C142 C170 ;X ;	0.18756333	Q9H4Y5	2
VGAVGMAC*AISILMKDLADELALVDVIEDK	C35 C64 ;C35 C64 ;X ;X ;	0.133345	P00338	2
PAVC*NDLSIMSKFK	X ;X ;C1525	0.07375		2
MAC*GLVASNLNLKPGECLR	X ;M1 C3 M1 C3 ;M1 C3 ;	0.0593175		3
MASGC*KIGPSILNSDLANLGAEC*LR	C23 C5 C23 ;X ;C23 ;C5 X ;C5	0.051635		2
INQKDGDGC*TVLHVVAHSPGYLVK	C242 ;C242 ;X ;X ;	0.03109	O15050	2
ASFENNCEIGC*FAK	C15 ;C15 ;C15 ;C15 ;	0.02674	P56537	4

NIFLVAATLRPETMFGQTNC*WVR	C305 ;X ;M299 C305 ;X ;	0.02454	Q9P2J5	3
IGSLKVSC*EEFLLMGLR	X ;C237 C237 ;X ;C237 C237 C237 C237 ;	0.01667		2
MQNC*SDHGAVPLAPLPPSPVRLAAGR	C4 ;C4 ;X ;C4 ;	0.01208	E5RFC4	3
LC*ASGAGATPDTAIEEIKEK	X ;C31 C31 ;C31 C31 ;C31 C31 C31 C31 ;	0.0075075		3
NRQTLC*SLLPR	X ;C273 C273 C280 C280 C273 C273 C280 C280 ;C273 C273 C280 C280 ;X ;	0.00475667		2
SALNVHC*K	X ;C354 ;X ;C354 C273 C273 C354 C273 C273 ;	0.00315667		2
QSRTC*STQVC*R	X ;C3688 C3693 C3687 C3692 ; C3692 ;X ;C3688	0.00213		2

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Peptide	Modified Residue	average area ratio	Uniprot ID	Seen in
QPATVPELQNAALLC*GR	C1290 C1290	1000	A0A087WY61 A0A087WY61	2
SCSSSC*AVHDLIFWR	C46 C46 C46	246.734864	O95197 O95197 O95197	3
SC*SSSCAVHDLIFWR	C42 C42 C42 C42	163.0219557	O95197 O95197 O95197 O95197	4
RAC*SETLAESR	C431 C4 C11 C29 C367 C315 C315 C431 C4 C11 C29 C367 C315 C315 C431 C4 C11 C29 C367 C315 C315	129.8884067	A8K0R7 H0YNU6 H0YKI3 H0YM06 H0YM94 A8K0R7 A8K0R7 A8K0R7 H0YNU6 H0YKI3 H0YM06 H0YM94 A8K0R7 A8K0R7 A8K0R7 H0YNU6 H0YKI3 H0YM06 H0YM94 A8K0R7 A8K0R7	3
SLRLSC*TASGFTFGDYAMSW VR	C30 C41 C30 C41 C30 C41 C30 C41	111.789065	A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15	4
RPTEIC*ADPQFIIGGATR	C82 C82 C82 C82	74.873605	P17655 P17655 P17655 P17655	3
YFASRMFC*LR	C240 C240	50.26447	C9JZ99 C9JZ99	2
LGEWVGLC*K	C92 C92 C92	39.243605	P25398 P25398 P25398	3
SSSSSSASAAAAAASSSAS C*SR	C100 C100	27.48666	Q07065 Q07065	2
QLLLGLFC*TNVAFPPEALR	C449 C449	21.31944	Q96AD5 Q96AD5	2
KSQTGILLGVC*SK	C798 C798 C798 C798 C798 C798 C798 C798	18.67296	Q12923 Q12923 Q12923 Q12923 Q12923 Q12923 Q12923 Q12923	2
AC*FCIDNEALYDICFR	C199 C199	17.258402	P01616 Q9H4B7 Q9H4B7	2
C*SDGFSGRNC*IPGSADFQSL VPK	C258 C267 C258 C267 C258 C267 C258 C267 C236 C245 C258 C267 C258 C267 C258 C267 C258 C267 C236 C245	17.017775	O60229 O60229 C9IZQ6 J3QSW6 O60229 O60229 C9IZQ6 J3QSW6	2

CPEALFQPSFLGMESC*GIHET TFNSIMK	C272 C272 C272	14.82797507	P63261 P63261 P60709	4
DNTIEHLLPLFLAQLKDEC*P	C377	14.44845789	P30153	4
DTFDHPTLIENESIC*DEFAPNL K	C241 C241 C241 C241	13.870875	Q14865 Q14865 Q14865 Q14865	2
LTTPTYGDLNHLVSATMSGVT TC*LR	C221 C221 C221 C221 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C221 C221 C221 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C239 C221 C221 C239 C239 C239 C239	13.82298	Q5JP53 Q5JP53 Q5JP53 Q5JP53 P68371 P68371 P68371 P68371 P04350 P04350 P04350 P04350 Q9BVA1 Q9BVA1 Q9BVA1 Q9BVA1 Q13885 Q13885 Q13885 Q13885 Q5JP53 Q5JP53 Q5JP53 P68371 P68371 P68371 Q9BVA1 Q9BVA1 Q9BVA1 Q13885 Q13885 Q13885 P04350 P04350 P04350 P68371 P68371 P68371 Q5JP53 Q5JP53 Q5JP53 P04350 P04350 P04350 Q9BVA1 Q9BVA1 Q9BVA1 Q13885 Q13885 Q13885 P68371 P68371 Q5JP53 Q5JP53 P04350 P04350 Q13885 Q13885	4
IC*YIFHETFGFR	C367 C380 C380 C380 C367 C367 C367 C367 C164	13.3998225	O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429 O00429	3
ANEDAVPLC*MSADFPR	C171 C171	13.15782	Q9C0B1 Q9C0B1	2
VIEQLGTPC*PEFMK	C245 C245 C245 C245 C245 C245 C245 C245	12.12929667	P45983 P45983 P45983 P45983 P45983 P45983 P45983 P45983	3
VMALQEAC*EAYLVGLFEDTN LCAIHAK	C97 C97 C97 C97 C97	11.95602333	P68431 P68431 P68431 P68431 P68431	3
AWLHNSGTDQEQIHLLSSQC *FSNISR	C245 C245 C245 C245 C245 C245	11.769955	Q8TC57 Q8TC57 Q8TC57 Q8TC57 Q8TC57 Q8TC57	2
YSNSALGHVNC*TIKELR	C282 C254 C895 C869 C1101	10.92832571	Q9NQC3 F8W914 Q9NQC3 Q9NQC3 Q9NQC3	3
LENNLRELQIC*PATAGSGPAA TQDFSK	C1119 C1100	10.59543	P00519 P00519	2
VC*EEIAIIPSKK	C35 C35 C34 C35 C35 C35 C34 C35 C35 C35 C34 C35	10.58191909	A0A075B716 H0YN88 H0YN73 P08708 A0A075B716 H0YN88 H0YN73 P08708 A0A075B716 H0YN88 H0YN73 P08708	3
GEAYNLFEHNC*NTFSNEVAQ FLTGR	C108 C108 C108 C108	9.147629	Q6ICB0 Q6ICB0 Q6ICB0 Q6ICB0	4
IPGGIIEDSC*VLR	C213 C175 C168 C213 C175 C168	8.98229	P49368 P49368 B4DUR8 P49368 P49368 B4DUR8	2
DDFAYCLNCF*CPLYAK	C214 C324 C330 C214 C324 C330	8.623293333	Q14192 J3KNW4 A0A0A0MSG2 Q14192 J3KNW4 A0A0A0MSG2	2
KQC*SSLQTAIADAEQR	C388	8.061945	O95678	2
QGEYGLASIC*NGGGGASAML IQK	C413 C413	7.98952	P24752 P24752	2
TIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C347 C347 C371 C281 C347 C371 C281	7.880559688	Q9BQE3 Q9BQE3 Q71U36 Q71U36 Q13748 Q13748 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65	4
NADC*LAELNEAMR	C207	7.70613	Q8IU81	2
C*IGGPPNAC*LDQLQNWFTIV AESLQQVR	C247 C255 C249 C257 C247 C255 C247 C255 C249 C257 C247 C255	7.64163	P42224 J3KPM9 P42224 P42224 J3KPM9 P42224	2

C*HIDLSGIVEEVK	C244 C244 C279 C244 C244 C279	7.6359875	Q6KB66 Q6KB66 Q6KB66 Q6KB66 Q6KB66 Q6KB66	2
LPLMEC*VQMTQDVQK	C360	7.621893	Q01813	4
C*QQALAELESVLSHLEDFAR	C124 C156 C124 C156 C124 C156	7.54765	Q15013 Q15013 Q15013 Q15013 Q15013 Q15013	3
PAGALVALVAPLC*WK	C284 C284 C284 C284 C284 C284	7.389273333	Q2T9J0 Q2T9J0 Q2T9J0 Q2T9J0 Q2T9J0 Q2T9J0	3
SSGEIVYC*GQVFEK	C64 C64 C64 C64 C35 C35	6.331681429	M0R117 Q02543 M0R117 Q02543 M0R3D6 M0R1A7	3
EQIDNLATELC*R	C66 C66	6.32004	O95295 O95295	3
MHSVIGC*GSDVHYWEYGR	C24 C45 C24 C45 C24 C45	6.124135	H0YLA4 Q00796 H0YLA4 Q00796 H0YLA4 Q00796	4
LPSPDC*PFPR	C148 C148 C148 C148 C148 C148	6.075953333	P29279 P29279 P29279 P29279 P29279 P29279	3
SPKPAAPAAPPFSSSSGVLGT GLC*ELDR	C91	5.767458571	O43294	3
GC*TIVKPFNLSQGK	C301 C301 C301 C301	5.68845	Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0	2
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C198 C173	5.610843333	M0R383 M0R0Y4 M0QYS6 Q03405 Q03405 M0QYR6	4
DC*ALTVVALR	C172 C202 C71 C172 C202 C71	4.884885	Q8N6M0 A0A087 Q8N6M0 Q8N6M0 A0A087 Q8N6M0	2
TWALTTAVSIPEQDNIAC*TSP HVLKGTPLSR	C210 C210	4.87575	O14498 O14498	2
DDSC*SGDSSAQLSSGEHLLG PNRIMAYSR	C1413 C1413	4.847535	O94823 O94823	2
SGETEDTFIADLVVGLC*TGQI K	C296 C389 C296 C389 C296 C389 C296 C389 C296 C389 C296 C389 C296 C389	4.791485385	P06733 P06733 P06733 P06733 P06733 P06733 P06733 P06733 P06733 P06733 P06733	4
DC*GATWVVLGHSER	C87 C124	4.743316	P60174 P60174	2
VSETC*IVPAWLPSLPDEVFLE EAPLVR	C376 C376 C376 C376	4.73259	Q2M3G4 Q2M3G4 Q2M3G4 Q2M3G4	2
ATDSKEPPGELC*PDVLYR	C46 C46 C46 C46	4.710895714	Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6	3
FDDYQGSLLAGQC*EEAVAPL VTATIER	C23 C23	4.69894	Q6ZV70 Q6ZV70	2
LC*YVALDFEQEMAMAASSSS LEK	C917	4.6402375	P0CG38	2
TPESTKPGPVC*QPPVSQSR	C209 C209	4.556916667	Q6A112 Q6A112	2
VVNSETPVVVDFAHQWC*GP CK	C90 C90	4.547926667	F8WDN2 Q99757	2
TAFQEALDAAGDKLVVVDFA TWC*GPCK	C32	4.509672045	P10599	4
LAEQC*GGLQGFLIFRSFGGG TSGGFTSLLMER	C136 C96 C136 C96 C136 C96 C136 C96	4.5069175	A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2	4
LENLNEAIEEDIVQSVLRPTNC *R	C378 C336 C293 C378 C336 C293 C378 C336 C293	4.4668175	Q7Z5K2 Q7Z5K2 Q7Z5K2 Q7Z5K2 Q7Z5K2 Q7Z5K2 Q7Z5K2 Q7Z5K2 Q7Z5K2	3
VAASC*GAIQYIPTELDQVRK	C134 C134	4.366908889	Q7L2H7 Q7L2H7	4
NMQITILTC*R	C169 C148 C169 C148 C169 C148 C169 C148	4.34288	O95456 O95456 O95456 O95456 O95456 O95456 O95456 O95456	3
YC*PNSVLVIDVKKPK	C116 C116 C116 C116	4.322528571	P51665 P51665 P51665 P51665	4
VC*FGIQLLNAVSR	C102 C218 C114 C208 C182 C188 C102 C218 C114 C208 C182 C188	4.240618333	H7C599 A0A0C4DFN3 H7C4E0 Q99685 Q99685 H7C599 A0A0C4DFN3	3

	C102 C218 C114 C208 C182 C188		H7C4E0 Q99685 Q99685 H7C599 A0A0C4DFN3 H7C4E0 Q99685 Q99685	
LSIQC*YLSALDR	C224 C224 C224 C224	4.12468	Q01581 Q01581 Q01581 Q01581	4
VTQNLPMKEGC*TEVSLLR	C308 C308 C308 C308	4.112593333	H3BQZ7 Q1KMD3 H3BQZ7 Q1KMD3	3
ICDEC*NYGSYQGR	C49	4.1041025	Q7RTV0	2
VFAEC*NDESFWFR	C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 C38	4.099003333	D6RF07 D6RBC5 D6R918 D6RG39 D6RD15 D6RC55 D6RIT9 D6RA54	2
EGEAAGAC*PEEIFSALQYSGT EVPLQWLR	C353 C504 C353 C504 C353 C504	4.075053333	Q96EP0 Q96EP0 Q96EP0 Q96EP0 Q96EP0 Q96EP0	3
KDDYEYC*MSEYLR	C40 C40	3.969314	P53611 P53611	3
GVLLYGPPGC*SK	C672 C672 C672 C672 C672 C672	3.9539	Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90	2
LQDLSSC*ITQ GK	C138 C389 C389 C161 C389 C389 C389 C389 C389 C389 C389 C389 C389 C389 C389 C33	3.91526	H3BUJ5 H3BT57 P29590 H3BT29 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 H3BVD2	2
YC*SGTGWPSFSEAHGTSGS DESHTGILR	C105 C105	3.88253	Q9Y3D2 Q9Y3D2	2
C*SVLAAANSVFGR	C439 C482 C439 C482	3.8788	B1AHB1 P33992 B1AHB1 P33992	2
SGLTPNDIDVIELHDC*FSTNEL LTYEALGLCPEGQGATLVDR	C307	3.804498333	P22307	4
VWNLANC*K	C182 C182 C182 C182 C182	3.784934	P63244 P63244 P63244 P63244 P63244	3
THEDLYIIPINC*DR	C104 C204 C104 C204	3.745846667	P22692 P22692 P22692 P22692	2
MFVALLGLGLGQVVC*SVALF FYFR	C15 C62 C15 C62	3.719655	O14788 O14788 O14788 O14788	2
AVAWC*PWQSNVATGGGTS DR	C364 C364	3.685796667	Q12834 Q12834	2
KGVSASAVPFTPSSPLLSC*S QEGSR	C585 C576 C585 C576 C39 C576 C585 C576 C39	3.667713333	J3QRU8 J3QL89 J3QRU8 J3QL89	3
IAILTC*PFEPKPK	C253 C215 C232 C253 C215 C232 C253 C215 C232 C253 C215 C232	3.637877273	P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1	4
AC*YLSINPQKDEALETEK	C222 C222	3.627432857	P42025 P42025	3
VC*NQIEFLNTEFK	C39	3.60025	O14879	2
FMPV IQDNPSGWGPC*AVPE QFR	C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19	3.587481333	O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371	4
VLSSC*PQAGEATLLAPSTE GGGLTCASAPQGLR	C88 C86 C88 C86	3.56654	O15446 O15446 O15446 O15446	2
LEHEEGAPC*TAIR	C183 C206 C233 C180 C215 C185 C212 C215 C280 C206 C233 C96 C158 C233 C233 C180	3.564905	Q07002 Q00536 Q00537 F5H6Z0 A0A0A0MSJ6 Q07002 Q00536 Q07002 Q00536 E5RGN0 Q00537 D6RA44 A0A087WZU2 Q00537 Q00537 F5H6Z0	2
AYEYVEC*PIR	C66 C66	3.556985	P53701 P53701	2
SCFHICLVGTISLACNDMTPE QMATNVNC*SSPER	C46 C46 C46 C46 C46 C46	3.54014	P21781 P21781 P21781 P21781	2
VGILDVDLC*GPSIPR	C54 C54 C54 C142 C54 C54	3.54000125	Q9Y5Y2 Q9Y5Y2 Q9Y5Y2 H3BNS4 Q9Y5Y2 H3BNF0	4

LTIIVSDPSHC*NVL R	C87 C87 C87 C87 C87 C87	3.519831667	P78346 P78346 P78346 P78346 P78346 P78346	3
AIQESLLTSTEGLC*PSALSET SR	C540 C540	3.49039	Q8IZ07 Q8IZ07	2
VQAQYPGVC*INNEVVEPSAE QIAK	C82	3.486403333	P50135	2
GADIMYTGTVDC*WR	C257 C257 C257	3.47375	P12236 P12235 P12236	2
FSAIQC*AAAVPR	C137 C98 C98 C98 C98 C31 C137 C98 C98 C98 C98 C31	3.472695	Q15054 Q15054 E9PRK3 E9PNC0 E9PM91 Q15054 Q15054 Q15054 E9PRK3 E9PNC0 E9PM91 Q15054	2
NLANSC*GTGIR	C416 C416	3.42913	Q96RE7 Q96RE7	2
EFYELDLSELLAPYSVDQSLSTA AC*LR	C186 C218 C186 C218	3.425065	Q15013 Q15013 Q15013 Q15013	2
VVVAENFDEIVNENKDVLI EF YAPWC*GHCK	C406 C406	3.397343571	P30101 P30101	4
EANTLNLAPYDACWNAC*RGD R	C285 C285 C285	3.390293333	Q9NR50 Q9NR50 Q9NR50	2
GSDELFCSTC*VTNGPFIMSSNS ASAANGNSDKK	C23 C23 C23 C23	3.38015625	P26599 A0A0U1RRM4 P26599 P26599	2
EAVQC*VQELASPSLLFIVR	C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178	3.36665	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637	3
IGSSLYALGTQDSTDIC*K	C264 C276 C148 C264 C276 C148	3.351786667	Q9UNH7 A0A0A0MRI2 Q9UNH7 Q9UNH7 A0A0A0MRI2 Q9UNH7	3
EC*ISVHVGGQAGVQMGNACW ELYCLEHGIQPDGQMPSDK	C4	3.33566	P68366	2
VEPC*SLTPGYTK	C218 C219 C218 C218 C218 C219 C218 C218	3.327915	Q96EB1 Q96EB1 Q96EB1 G5E9D4 Q96EB1 Q96EB1 Q96EB1 G5E9D4	2
TSC*GSPNYAAPEVISGR	C185 C200 C174 C174	3.3186825	Q13131 Q13131 A0A087 P54646	3
NQC*LFTNTQCK	C68 C68 C68 C68 C93 C68	3.2875	Q9UL40 D6RJ07 B7Z6B6 Q9UL40 Q9UL40 B7Z6Q2	2
MRECISVHVGGQAGVQMGNAC *WELYCLEHGIQPDGQMPSDK	C20	3.282392	P68366	2
AVFPEGPC*EEPLQLR	C660 C140 C900 C594 C660 C655 C140 C655 C900 C660 C900 C594 C660 C655 C655 C900	3.275121429	Q96P48 A0A0A0MSJ2 Q96P48 Q96P48 Q96P48 E7EU13 Q96P48 Q96P48 Q96P48 Q96P48 Q96P48 Q96P48 Q96P48 E7EU13 Q96P48 Q96P48	4
LSIPTYGLQC*TR	C2273 C2273	3.24955	P49327 P49327	2
EC*EHC*DCLQGFQLTHSLGG GTGSGMGTLLISK	C124 C127	3.22461	Q9BUF5	2
TFGPGLQGD TLIDIGSGPTIYQ VLAAC*DSFQDITLSDFDRNR	C74 C74	3.22292	F8WBC2 O95050	2

THC*PYAVALPEVAPAQPLTEA LR	C673 C673 C673 C673	3.196751667	Q6PJG6 Q6PJG6 Q6PJG6 Q6PJG6	4
VAHALAEGLVIAIC*IGEKEK	C127 C164 C127 C164 C127 C164 C127 C164	3.177608889	P60174 P60174 P60174 P60174 P60174 P60174 P60174 P60174	4
TYITDPVSAPC*APPLQPK	C342 C364	3.173895	A0A087WZF1 Q93052	4
ELELMFGC*QVEGDAAETPPR PR	C251 C277	3.173097333	Q02750 Q02750	4
GILLYGPPGC*GK	C259 C264	3.1721825	I3L0N3 P46459	3
YIYDQC*PAVAGYGPIEQLPDY NR	C453 C453 C453	3.160503333	P31930 P31930 P31930	3
QNLFQTGSNVSFSC*GGETR	C203 C203 C203 C203 C203 C203 C203 C203	3.15739	Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5	2
AFPQLGGRPGPEGEGLSLEQ PPPLQTQACPESSC*LR	C84	3.133015	O94992	2
SFC*SQFLPEEQAEIDQLFDAL SSDKNSPNVSSK	C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13	3.12622	H3BPI4 H3BQ13 H3BM75 H3BTC5 H3BUB0 Q6P9B6 Q6P9B6 Q6P9B6 H3BPI4 H3BQ13 H3BM75 H3BTC5 H3BUB0 Q6P9B6	4
MAC*GLVASNLNLKPGECLR	C3 C3 C3 C3 C3 C3	3.10987625	P09382 P09382 P09382 P09382 P09382 P09382	4
GDPQVYEELFSYSC*PK	C417 C460 C369	3.099615	Q9Y262 B0QY89 Q9Y262	2
EGILQYQEVYPELQITNVVEA NQPVTIQNWC*K	C98 C98 C98 C93 C98 C63 C98 C98 C98 C98 C98 C98 C98 C98 C93 C98 C63 C98 C98 C98 C98 C98	3.094642	P05067 P05067 P05067 P05067 P05067 A0A0A0MRG2 P05067 P05067 P05067 P05067 P05067 P05067 P05067 P05067 P05067 P05067 A0A0A0MRG2 P05067 P05067 P05067 P05067 P05067	3
IHMGC*AENTAK	C196 C196	3.09369	P24752 P24752	2
LC*ASGAGATPDTAIEEIKEK	C31 C31 C31 C31	3.090807143	P53384 P53384 P53384 P53384	3
IINALSSEPAC*LAEIEEDKAR	C3347 C3347 C3347	3.07614	P78527 P78527 P78527	2
VMTIPYQMPASSPVIC*AGG QDR	C194	3.074063243	Q15365	4
LESLSAESHPPGNC*GEVNG VIAGVAPSVEAFDK	C32 C32 C32 C32 C32 C32	3.063339	E9PDI2 F8WDB9 P40123 E9PDI2 F8WDB9 P40123	4
NLC*SQMSAVSGPLLQWLEDR MGMEAVMALLEATPDTPAC*V VTLSGNQSVR	C248 C204 C250 C274 C273 C274 C159 C249 C248 C204 C250 C274 C273 C274 C159 C249 C248 C204 C250 C274 C273 C274 C159 C249	3.05072	P46736 P46736 A0A087WZR3 H9KVA9 P46736 A0A0D9SF50 P46736 P46736 P46736 P46736 A0A087WZR3 H9KVA9 P46736 A0A0D9SF50 P46736 P46736 P46736 P46736 A0A087WZR3 H9KVA9 P46736 A0A0D9SF50 P46736 P46736	3
VLILDEATSALDVQC*EQALQD WNSR	C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641	3.031122609	P17858 P17858 P17858 P17858	3
HFLSDTGMAC*R	C119 C69 C119 C119 C69 C119 C69 C119 C69	3.030023333	Q03519 A0A0G2JLV0 A0A087WYD6 Q03519 A0A0G2JLV0 A0A087WYD6 Q03519 A0A0G2JLV0 A0A087WYD6 Q03519 A0A0G2JLV0 A0A087WYD6	4
			Q5TFE4 Q5TFE4 Q5QPD0 Q5TFE4	4

			Q5TFE4 Q5TFE4 Q5TFE4 Q5TFE4 Q5TFE4	
DLLGLC*EQKR	C528 C528	3.02898	O14980 O14980	2
AFAFVTFADDQIAQSLC*GEDL IIK	C244 C128 C128 C128	3.026651	A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 Q13148 Q13148 Q13148	3
DLCELNEC*PLDPGGYFIINGS EK	C102 C170 C177	3.023446667	C9J4M6 C9J2Y9 P30876	3
SWC*PDCVQAEPVVR	C43 C43 C43 C43 C43 C43	2.997012069	Q9BRA2 Q9BRA2 Q9BRA2 Q9BRA2 Q9BRA2 Q9BRA2	4
LNPQC*IPYTLQNHYYR	C368 C543 C497 C482 C543 C497 C482	2.946995	O95453 O95453 O95453 O95453 O95453 O95453 O95453	2
TTC*SSGSALGPGAGAAQPSA SPLEGLLDLSYPR	C12 C12 C12 C12 C12 C12 C12 C12 C12	2.946175	F8WDZ3 Q96FZ5 Q96FZ5 F8WDZ3 Q96FZ5 Q96FZ5 F8WDZ3 Q96FZ5 Q96FZ5	4
SEENTNTEIVEC*ILK	C902 C903 C902 C903 C543	2.93984	A0A087WV66 P46013 A0A087WV66 P46013 P46013	2
TTLG*GTLDYLPPEMIEGR	C290	2.919315	O14965	2
WEALHAAECPC*GPSLIR	C178 C178	2.91519	P53701 P53701	3
SSILLDVKPWDDETDMAQLEA C*VR	C583 C633 C583	2.90458	P29692 E9PRY8 A0A087	2
SGAELALDYLC*R	C107 C92 C107 C75 C107 C92 C107 C75	2.898222	Q9BRJ6 H7C2R9 C9JQV0 H7C0T1 Q9BRJ6 H7C2R9 C9JQV0 H7C0T1	2
IQCTLQDVGSALATPC*SSAR	C80 C132 C132 C80 C132 C80 C132	2.892786667	S4R3P5 Q96EY8 F5H4Z7 S4R3P5 Q96EY8 S4R3P5 Q96EY8	3
QAVLGAGLPSTPC*TTINK	C119 C119 C119 C119 C119	2.8872	P24752 P24752 P24752 P24752 P24752	4
TIGGGDDSFRTFFC*ETGAGK	C54 C54 C39 C54	2.882259	P68366 P68366 P68366 P68366	4
DLIMDNC*EELIPEYLNIFIR	C178	2.879774444	Q58FG1	3
DEQAFPALSSSSVNSASQSS NPC*VQR	C489 C424 C489 C423	2.87751	Q01804 Q01804 Q01804 Q01804	2
VVNEINIEDLC*LTK	C92 C92 C92	2.87287	Q8N5K1 Q8N5K1 Q8N5K1	3
AAGELGIAVCNIPSAAVEETAD STIC*HILNLYR	C140 C208 C680 C140 C208 C680	2.8693	P56545 Q5SQP8 P56545 P56545 Q5SQP8 P56545	2
HIEALLGSPC*GK	C81 C81 C81	2.86557	P49589 P49589 P49589	3
C*CFLCMVCR	C33 C33 C33	2.856137143	F8VQR7 F8VW96 Q16527	4
FSC*LGTTDKDVLISEFQR	C18 C18 C18 C18	2.849535	Q9H6K1 Q9H6K1 Q9H6K1 Q9H6K1	2
GFSALC*VEGAPASFGK	C33 C33	2.84362	Q96EY5 Q96EY5	2
HSVTGYGDC*AVGAR	C270	2.828485	Q96IF1	2
C*ALSSPSLAFTPIIK	C238 C120 C255 C238 C120 C255 C238 C120	2.811519	Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5	4

	C255 C238 C120 C255 C238 C255		Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5	
DFTPVC*TTELGR	C47	2.80227	P30041	2
AAHTEDINAC*TLTSPR	C657 C637 C657 C637	2.80135	P04049 P04049 P04049 P04049	4
TREEEC*HFYAGGQVYPGEAS R	C51	2.793707143	Q13162	3
GVLFVPGAFTPGC*SK	C100 C100 C48 C100 C100 C48	2.769963636	P30044 P30044 P30044 P30044 P30044 P30044	4
ITNSLTVLC*SEK	C86 C158 C207 C153 C66 C86 C158 C207 C153 C66	2.76179	H0YGJ7 O75822 O75822 O75822 H0YLP3 H0YGJ7 O75822 O75822 O75822 H0YLP3	2
NTMEALPAC*LLR	C79 C79 C79 C79	2.74144	P04183 K7ERV3 P04183 K7ERV3	2
LLYAATADSSSTSSDSLGG GYC*GAR	C821 C821	2.739455	P35568 P35568	2
LPACVWDC*GTGYTK	C12 C12 C12 C12	2.73107	P61158 P61158 P61158 P61158	4
VSC*AGQMILEVQPGLYFGGA AAVAEPDHLR	C23 C23	2.723694286	Q9UNI6 Q9UNI6	2
DCIGGC*SDLVSLQQSGELLT R	C83 C83 C83	2.722670909	P35754 P35754 P35754	3
VQTDPPSPVIC*DLYPNGVFPK VALALC*LGKPADVYLIDEPSA YLDSEQR	C98 C23 C121 C85 C120 C121 C97 C149 C98 C23 C121 C85 C120 C121 C97 C149	2.72218	P50579 G3V1U3 F8VRR3 F8VQZ7 P50579 F8VY03 F8VSC4 P50579 G3V1U3 F8VRR3 F8VQZ7 P50579 F8VY03 F8VSC4	2
LAGANPAVITC*DELLLGHEK	C475	2.7221	P61221	3
LAGANPAVITC*DELLLGHEK	C4061 C4030 C4061	2.721976667	P78527 P78527 P78527	2
VQENSAYIC*SR	C585 C585	2.715655	Q9Y3T9 Q9Y3T9	2
WNTDNTLGTEIAIEDQIC*QGL K	C103 C103 C103 C103	2.715485	A0A0A0MR02 P45880 A0A0A0MR02 P45880	2
MELLSALSPC*LL	C649 C649	2.712866667	Q9NVC6 Q9NVC6	2
LDGSLETTNEILDSASHDC*PL VTQTYGAAAGK	C375 C388 C393 C393 C375 C334 C375 C388 C393 C393 C375 C334	2.70418375	Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8 Q9Y4P8	3
QSLLC*PK	C27 C27	2.697585	Q56VL3 Q56VL3	3
QSLDVLDC*EGDLSPGLTDS TAPSELGKDDLEELAAAQK	C370 C431	2.697383333	Q8IZ73 Q8IZ73	2
LC*YVALDFENEMATAASSSSL EK	C219 C219 C219 C219 C219 C219 C219 C218 C218 C218 C219 C219 C219 C219 C219 C219 C219 C219 C219	2.692773235	P68032 P68032 P68032 P68133 P68032 P68032 P68032 P63267 P63267 P63267 P68032 P68133 P68032 P68133 P68032 P68133 P62736 P62736 P62736	4
AVC*MLSNTTAAIEAWAR	C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C400 C310 C376 C400 C310 C376 C400 C310 C376 C400 C310 C376 C376 C376 C376 C376 C376 C376 C376 C376 C376 C400 C310 C376 C400 C310 C376 C400 C310 C376 C376 C376 C376 C376 C376	2.686180603	P68363 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 P68366 Q13748 Q13748 Q13748 Q13748 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 P68366	4

	C376 C376 C376 C376 C376 C376 C376 C400 C310 C376 C400 C310 C376 C400 C310 C376 C400 C310 C376 C376 C376 C376 C361 C376 C361 C376 C376 C400 C310 C376 C400 C310		P68366 P68366 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 P68363 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 P68366 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 P68363 P68363 Q71U36 Q71U36 P68366 P68366 P68366 P68366 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65	
C*GVPFTDLLDAAK	C230 C149 C201	2.6824725	Q01433 Q01433 H0Y360	2
C*IPALDSLTPANEDQK	C447 C447	2.6806225	P10809 P10809	2
SC*SPLAFSAFGDLTIK	C231 C191 C231 C191 C231 C191 C92 C231 C191 C92 C231 C191	2.678050833	Q96EY5 Q96EY5 Q96EY5 Q96EY5 Q96EY5 Q96EY5 E9PLZ8 Q96EY5 Q96EY5 E9PLZ8 Q96EY5 Q96EY5	4
FC*IWTESAFR	C250 C250	2.673618	P36578 P36578	3
VELPTC*MYR	C23 C23 C23	2.6717825	F8W950 F8W950 F8W950	2
SGGLQTPEC*LSR	C439 C439	2.669185	P85037 P85037	2
VPFLVLEC*PNLK	C14 C14 C14 C14 C14 C14 C14 C14	2.66747	Q9NRP0 Q9NRP0 Q9NRP0 Q9NRP0 A0A087WUD3 Q9NRP0 Q9NRP0 A0A087WUD3	3
HAELIASTFVDQC*K	C283 C219	2.66366	Q9UBB4 Q9UBB4	2
GLSNLGNTC*FFNAVMQNLSQ TPVLR	C204 C190 C205 C204 C190 C205	2.660356667	Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5	2
ATLQAALC*LENFSSQVVER	C21 C40 C21 C21 C21 C40 C21 C21 C21 C40 C21 C21 C21 C40 C21 C21 C21 C40 C21 C21	2.65697	P59998 P59998 F8WCF6 H7C0A3 P59998 P59998 F8WCF6 H7C0A3 P59998 P59998 F8WCF6 H7C0A3 P59998 P59998 F8WCF6 H7C0A3 P59998 P59998 F8WCF6 H7C0A3	4
QASVGAGIPYVPAWSCQMIC *GSGLK	C92 C121 C92 C92	2.65151	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	3
TLIQNC*GASTIR	C455 C417 C410	2.64414	P49368 P49368 B4DUR8	2
VSDTVVEPYNATLSVHQLVEN TDETYC*IDNEALYDIC*FR	C183 C193 C183 C193 C201 C211 C201 C211 C131 C141 C131 C141 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C183 C193 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C183 C193 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C183 C193 C201 C211 C201 C211	2.631285172	Q5JP53 Q5JP53 P68371 P68371 M0QYM7 M0QYM7 Q9BUF5 Q9BUF5 P04350 P04350 Q9BVA1 Q9BVA1 Q5JP53 Q9BUF5 P68371 Q9BVA1 P04350 P68371 P68371 Q5JP53 Q5JP53 Q9BUF5 Q9BUF5 P04350 P04350 Q9BVA1 Q9BVA1 P68371 Q5JP53 Q9BUF5 P04350	4

C*DLSPWAVSR	C127 C103 C55 C127	2.63097	O14966 O14966 O14966 O14966	2
IC*DGUVQFAGIR	C457	2.626508	Q9Y512	2
SDVC*TPGGTTIYGLHALEQG GLR	C235 C247 C235 C247 C235 C247 C235 C247	2.617259412	Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1	4
LNIIISNLDC*VNEVIGIR	C390 C275 C402 C402 C357 C390 C402 C338 C402 C357 C390	2.612063684	P30153 P30154 P30154 P30154 P30154 P30153 P30154 P30154 P30154 P30154 P30153	4
C*ALLASEVPQLALQLLDPEP YVR	C539 C539	2.60538	Q6PJG6 Q6PJG6	2
QIPAITC*IQSQWR	C781	2.60499625	P46940	3
VQTDAFVSNELDDPDDLQC*K R	C465 C486 C462 C485 C464	2.59669	Q9UI10 E7ERK9 A0A087WTA5 Q9UI10 Q9UI10	2
AGQC*VIGLQMGTKN	C185 C153 C164 C153 C185 C153 C164 C185 C153 C164 C155 C121 C101 C185 C153 C164 C155 C121 C101	2.5955375	B4DUT8 B4DDF4 Q99439 B4DDF4 B4DUT8 B4DDF4 Q99439 B4DUT8 B4DDF4 Q99439 A0A087 H3BVI6 A0A087 B4DUT8 B4DDF4 Q99439 A0A087 H3BVI6 A0A087	4
VLLSICSLLC*DPNPDDPLVPEI AR	C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105	2.592642	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	4
ITSEQUALQDPYFQEDPLPTLDV FAGC*QIPYPK	C289 C349	2.58138	Q9BWU1 Q9BWU1	2
EVPGSEARPEQEPPVAEPVP VC*TIFSQR	C160	2.574785	Q8WVT3	2
EWNLPPNAPAC*MER	C26 C26 C26	2.5714725	Q9BQA1 Q9BQA1 Q9BQA1	2
C*WDPSPQAYFTLPR	C348 C354 C348 C354 C32 C348 C354 C32	2.5708375	I3L2N2 O14641 I3L2N2 O14641 I3L0Z8 I3L2N2 O14641 I3L0Z8	4
VPC*ILPIIENGKK	C378 C378 C378 C378	2.568712	Q9UJM3 Q9UJM3 Q9UJM3 Q9UJM3	4
C*MTNTPVVVR	C120 C147 C90 C120 C120 C147 C90 C120 C120 C147 C120 C120 C147 C120 C90 C120	2.56569	P32322 P32322 J3QKT4 P32322 P32322 P32322 J3QKT4 P32322 P32322 P32322 P32322 P32322 P32322 E2QRB3 J3QKT4 P32322	3
QAQYLGMSC*DGPFKPDHYR	C393 C421 C393 C421	2.55453	P23526 P23526 P23526 P23526	2
LAMDFGGAGAAQQGLTDSC* QSGGVPTAVQNLAPR	C494 C510 C412 C494 C510	2.546406	Q13310 Q13310 H0Y5F5 Q13310 Q13310	3
VLRHEEFEEGC*K	C41 C41 C41 C41 C245 C41 C41 C41 C41 C245	2.54494	Q9HC38 I3L3Q4 Q9HC38 I3L1F4 Q9HC38 I3L3Q4 Q9HC38 I3L1F4	2
LPIIGVVENMSGFIC*PK	C235 C224 C235 C224 C235 C85 C224 C235 C224	2.54126	P53384 P53384 P53384 P53384 P53384 I3L3A0 P53384 P53384 P53384	4
LLC*SQLQVADFLQNILAQEDT AK	C54 C54 C54 C54	2.536293333	O95229 O95229 O95229 O95229	2

TLQNTMVNLALENAC*DEATY QLGLDMEELEEIEEDAGLNG GLGR	C109 C109 C109 C109	2.534833333	P11217 P11217 P11217 P11217	3
GAPLLVCGSPFGAFCPDIFLNT LSC*GVLSNVAGPLLLTDAR	C240 C240 C240 C240	2.534685	Q2T9J0 Q2T9J0 Q2T9J0 Q2T9J0	2
TILVYSRPPC*QPQFSLTEPMK	C147 C144 C222 C147 C147 C144 C222 C147 C147 C144 C222 C147 C147 C144 C222 C147	2.522676667	Q9NWW8 Q9NWW8 Q9NWW8 J3KQS6 Q9NWW8 Q9NWW8 Q9NWW8 J3KQS6 Q9NWW8 Q9NWW8 Q9NWW8 J3KQS6 Q9NWW8 Q9NWW8 Q9NWW8 J3KQS6	4
QQIACIGGPPNIC*LDR	C259 C259 C259	2.522172	P40763 P40763 P40763	4
ESTGNMVTGQTVK*K	C596 C596	2.52073	Q15021 Q15021	2
TPGAATASASGAAEDGACGC* LPNPGTFEECHR	C76 C76	2.516725	O96008 O96008	3
SMVSPVPSPTGTISVPNSC*PA SPR	C254	2.5154875	P85037	4
LVSSPC*CIVTSTYGWTANME R	C589	2.514732	P08238	4
C*WIFSLNVMR	C73	2.505732857	Q13867	4
VQVSDPESTVAVAFPTIPHC* SMATLIGLSIK	C93 C93 C55 C93 C93 C55 C93 C93 C55 C93	2.504313913	Q9Y3D0 H3BNV7 J3KS95 Q9Y3D0 H3BNV7 J3KS95 Q9Y3D0 H3BNV7 J3KS95 Q9Y3D0	4
DQDGLPEEVTGC*K	C267	2.50211	Q9BR61	2
MC*GAPSATQPATAETQHIAD QVR	C3	2.499505	P04080	2
DSSQGPC*EPLPGPLTQPR	C107 C107 C107	2.4979	J3KNL6 J3KNL6 F1T0I1	3
KTSC*EFTGDILR	C112 C112	2.49368	P21281 P21281	3
DFGYGVEEEEEEAAAAGGGV GAGAGGGC*GPGGADSSKPR	C52 C52	2.491716667	Q9HB90 Q9HB90	2
ECISVHVGQAGVQMGNACWE LYC*LEHGIQPDGQMPSDK	C25	2.49085	P68366	2
HEFSVDMTC*GGCAEAVSR	C12 C12 C12 C12	2.477579091	O00244 O00244 O00244 O00244	4
MSSYAFFVQTC*R	C23 C23 C23 C23 C23	2.472134286	Q5T7C4 B2RPK0 D6R9A6 P26583 P09429	3
CNYNC*PHANEAAPFYR	C359 C357 C359 C357	2.46877	O00622 A0A087WVM3 O00622 A0A087WVM3	2
VGMGSGSIC*ITQEVLCGRP QATAVYK	C331 C331 C331	2.468693333	P12268 P12268 P12268	3
LVPASQC*GSLIGK	C109 C109 C109 C109 C141 C109 C109 C109 C109 C109 C141	2.46691	Q15366 Q15366 Q15366 Q15366 P57721 Q15366 Q15366 Q15366 Q15366 P57721	2
EFLESQEDYDPC*WSLQEK	C96 C96 C43 C22 C96 C96 C22 C22 C96 C96	2.4607	Q8N6T3 E5RHC5 Q8N6T3 F8W1U7 F8VWB3 Q8N6T3 F8VWH9 E5RHT6 Q8N6T3 E5RGL6	2
GVPGAIVNVSSQC*SQR	C138	2.4562225	Q7Z4W1	2
SFFDNISC*DDNR	C311 C375 C54 C334 C375 C50 C311 C375 C54 C334 C375 C50	2.45605	A0A140TA76 Q8ND56 A0A096LP11 Q8ND56 Q8ND56 A0A0G2JQ95 A0A140TA76 Q8ND56 A0A096LP11 Q8ND56 Q8ND56 A0A0G2JQ95	2
LFQPC*FLGMESCGIHETTFNS IMK	C965 C965 C965 C965 C965	2.45097	Q6S8J3 P0CG38 A5A3E0 Q6S8J3 A5A3E0	2
NTFIGTPYWMAPEVIAC*DENP DATYDYR	C202 C202 C202 C202 C65 C202 C202 C164 C202 C202 C202 C202 C202 C202 C202 C202 C202 C202	2.448843333	Q8N4C8 O95819 Q8N4C8 E7ESS2 I3L2I2 A0A0D9SEY1 Q8N4C8 H7C360 E7EN19 O95819 G5E948 E7ENQ1	3

			Q8N4C8 O95819 O95819 O95819 Q8N4C8	
KC*PFYAAEQDK	C236 C265 C319 C236 C265 C319 C236 C265 C319 C236 C265 C319	2.445458571	P30519 P30519 A0A087WT44 P30519 P30519 A0A087WT44 P30519 P30519 A0A087WT44 P30519 P30519 A0A087WT44	3
LPILIFPEGTC*INNTSVMMFK	C325 C306 C325	2.44423	Q86UL3 Q53EU6 Q86UL3	2
SSVELPPYSGTVLC*GTQAVD KLPDQGEYQR	C88 C44 C40 C88 C44 C40	2.443565	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	2
AMAHCGSQEALIVGGVGC*NV R	C265	2.4434725	Q9NPF4	3
YSNSDVIIYVGC*GER	C277 C244 C277 C244 C277 C244 C277 C244	2.44337875	P38606 P38606 P38606 P38606 P38606 P38606 P38606 P38606	4
LDC*SQGYTEENTIFAPR	C125 C125	2.43768	Q9BVG4 Q9BVG4	2
NESC*SENYTTDFIYQLYSEEG K	C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641 C641	2.43535875	Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813	4
NAGNC*LSPAVIVGLLK	C335 C369 C335 C369 C335 C369 C335 C369	2.43419875	Q5SZU1 O43175 Q5SZU1 O43175 Q5SZU1 O43175 Q5SZU1 O43175	4
SGEEALIIPDAVAVDC*KDPD DVVPVQQR	C38 C38 C38 C38	2.430051429	Q9Y287 Q9Y287 Q9Y287 Q9Y287	2
LYYFQYPC*YQEGLR	C130 C130 C130	2.423093333	Q9NRW3 Q9NRW3 Q9NRW3	4
RPYEDQGLGETTPLTIIC*QPM QPLR	C367 C367 C367	2.419008	Q8TF42 Q8TF42 Q8TF42	3
YKDLEQQDC*EIAQEIQEK	C85 C85	2.418106667	Q8IVM0 Q8IVM0	2
LVC*PAAYGEPLQAAASALGA AVR	C110	2.41509	P23610	2
GLAAALLLC*QNK	C645 C645 C645	2.414886	O43290 O43290 O43290	3
SVAPAAPTSC*DFSPGDLVWA K	C88 C88	2.405915	P52701 P52701	2
DSMC*NEFSQIFQLCQFVMEN SQNAPLVHATLETLLR	C199 C199	2.398963333	O14980 O14980	2
DLPLMALPPCHALC*QFYVVN SELSCQLYQR	C199	2.398096667	P04818	2
MALDALLQEIALSEPQLC*EVL QVAGPDR	C38 C38 C38 C38 C38 C38 C38 C38 C38 C38	2.3973945	Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4	4
ISHESPGSSQC*LLEYLLSR	C52	2.392995	Q96N21	2
EQVPSLGSNVAC*GLAYTDYH K	C568 C568	2.37763	A1L0T0 A1L0T0	2
ICDGCIIVVDAVEGVC*PQTQA VLR	C73 C124 C73 C124	2.372391667	Q7Z2Z2 Q7Z2Z2 Q7Z2Z2 Q7Z2Z2	3
NIAQIAVVMGSC*TAGGAYVPA MADENIIVR	C216	2.372076667	Q9HCC0	3
C*VLPEEDSGELAKPK	C305 C318 C318	2.371732	Q9Y3F4 Q9Y3F4 Q9Y3F4	2
AVC*MLSNTTAVAEAWAR	C376 C376 C376 C376 C376 C376 C376 C376 C376 C376	2.369484105	Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3	4
TASLELGEDDDEQEDDDIEYF C*QAVGEAPSEDLFPEAK	C338 C391 C391 C391 C391 C391 C338 C391 C391 C391 C391 C391	2.364205	A8MV53 Q9NQ55 Q9NQ55 Q9NQ55 A0A0B4J1V8 A0A0A6YYI3 A8MV53 Q9NQ55 Q9NQ55	2

			Q9NQ55 A0A0B4J1V8 A0A0A6YYI3	
KQYEMLC*R	C293 C293 C293 C293 C293 C293 C293 C293 C293	2.362633333	P13674 P13674 P13674 P13674 P13674 P13674 P13674 P13674 P13674	3
GWNEC*EQTVALLSLLK	C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20	2.360205	M0QZ22 Q9UPU9 M0QY61 A0A087WZT0 A0A087WUK6 Q5PRF9 Q9UPU9 M0QZ22 Q9UPU9 M0QY61 A0A087WZT0 A0A087WUK6 Q5PRF9 Q9UPU9	2
GDGQFFAVSVVC*PETGAR	C213	2.358883333	O95163	2
EQHGVAASC*LEDLR	C38 C38 C38	2.358825	O00273 O00273 K7ERT1	2
DQTAALLNSAGLGAADLFVLP ANC*GSSDGCEELER	C152 C152	2.354185	Q8WZA9 Q8WZA9	2
TDLEAIPQQC*PIDLPCQVTGC QCR	C95 C37 C95 C37 C95 C37 C95 C37	2.35273	A4D161 B8ZZQ8 A4D161 A4D161 A4D161 B8ZZQ8 A4D161 A4D161	2
C*YSAEVVTLWYRPPDVLFGA K	C125 C157 C125 C157	2.347732857	Q00535 Q00535 Q00535 Q00535	3
SSPGLSDTIFC*R	C27 C27 C27	2.344953333	Q9H8M7 Q9H8M7 Q9H8M7	3
SQMYSTDYDQILPDC*YSWPE EVQK	C481 C556 C481 C556	2.333041667	P48163 P48163 P48163 P48163	3
NPAFPGLDASPPASTHELTPN DLIGC*IIGR	C287 C287	2.32777	P57721 P57721	2
AQLVEIVGC*HFR	C184 C184 C184	2.327106	O75446 O75446 O75446	3
C*TPSVISFGSK	C34 C34 C34 C34	2.325182	Q92598 Q92598 Q92598 Q92598	3
KLFAPQQILQC*SPAN	C230 C263 C230 C263	2.3223175	P04183 K7ERV3 P04183 K7ERV3	4
NC*DKGQSFFIDAPDSPATLAY R	C277 C266	2.3176425	P53384 P53384	2
LGC*NITISEDITPR	C38 C38 C38 C38	2.3138275	Q96FJ0 Q96FJ0 Q96FJ0 Q96FJ0	3
ISDTGSAGLMLVEFFAPWC*G HCK	C57 C57 C57	2.313708	P30101 P30101 P30101	4
LCLNIC*VGESGDR	C24 C25 C23 C24 C25 C23 C24 C25 C23 C24 C25 C23 C24 C25 C23	2.312180769	P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8	4
HC*NLLGDELLECLSWR	C120 C120 C120	2.3096925	A6NDU8 A6NDU8 A6NDU8	3
DAVLPEQSPGDFDFNEFFNLD KVPC*LASMIEDVLGEGSVSAS R	C318 C155 C318 C318 C318 C155 C318 C318	2.30556	Q9NRA8 Q9NRA8 B1AKL4 Q9NRA8 Q9NRA8 Q9NRA8 B1AKL4 Q9NRA8	2
IVPVDIYIPGC*PPTAEALLYGIL QLQR	C183 C183 C183	2.29976	O75251 O75251 O75251	3
ELSFSGIPC*EGGLR	C36 C36	2.29604	Q9NVG8 Q9NVG8	2
VLFPGCTPPAC*LLDGLVR	C440 C414 C440 C414 C440 C414 C440 C414	2.295376	Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74	4
KLEC*LPPEPSPDDPESVK	C349 C349	2.29415	Q96CS3 Q96CS3	2
SEGGFIWAC*K	C269	2.291593333	O75874	2
YLGIPGDKEYCISSDDLFLSPY C*PGK	C239 C189 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 C239 C189 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151	2.291335	A0A087WSW9 E9PIR7 E2QRB9 Q16881 F8W809 Q16881 A0A087WSY9 Q16881 Q16881 Q16881 Q16881 Q16881 A0A087WSW9 E9PIR7 E2QRB9 Q16881 F8W809 Q16881 A0A087WSY9 Q16881	2

			Q16881 Q16881 Q16881 Q16881	
C*HVQTIQLCR	C153 C153 C153 C153 C153 C153	2.28775	O00541 B5MCF9 O00541 O00541 B5MCF9 O00541	2
ASGC*EGEDVVTLLK	C628 C600	2.286276667	P52789 E9PB90	2
YVENPSQVLNC*ER	C1344 C1285 C1280	2.284153333	O75694 O75694 E9PF10	2
DFEADDTC*LAHCWVVR	C47 C47 C47 C47	2.27457	E5RIQ8 E5RIQ8	2
LSPC*VPAKPPLAEFEEGLDR	C481 C481 C481	2.27373	Q15742 Q15742 Q15742	3
YIELFLNSC*PK	C476 C476 C476 C413 C314 C420 C449	2.27224	Q12849 Q12849 Q12849 H0Y8R1 Q12849 F5H516 H0YAK1	2
APELLGC*K	C177 C177	2.268004	G3V5T9 P24941	3
MC*DFGISGLVDSVAK	C212 C178 C207 C212 C178 C207 C212 C178 C207 C212 C178 C207	2.262771667	P46734 P46734 P46734 P46734 P46734 P46734 P46734 P46734 P46734 P46734 P46734 P46734	4
DAIITC*NPEEFIVEALQLPNFQ QSVQEYR	C422 C441 C401	2.26049	G5E9D5 Q9BQ52 Q9BQ52	3
NGLQSC*PIKEDSFLQR	C1013 C1013 C1058 C1013 C1013 C1058	2.25753	E9PFD7 Q504U8 P00533 E9PFD7 Q504U8 P00533	2
DAVFDGSSC*ISPTIVQQFGYQ R	C27 C27 C27 C27 C27 C27	2.24192	P04049 P04049 P04049 P04049 P04049 P04049	3
VLLSICSLLC*DPNPDDPLVPDI AQIYK	C111 C73 C111 C73	2.241915	P51668 A0A087WW00 P51668 A0A087WW00	2
LELLVGSPASC*MELELYGVD DKFYK	C51	2.240882	Q99426	2
DPC*AAPNEGFCASAGVQTEAG VADLTWVGER	C65	2.2382	Q9BQA1	2
VDLELFPSPDMEC*ADVPLLT SSK	C31	2.235535	P14921	2
VYEVNEDPETAF*TLANR	C617 C603 C618	2.23416	Q9Y5T5 Q9Y5T5 Q9Y5T5	3
GYDAPLC*NLLLFK	C379 C420	2.227644	O60488 O60488	3
GDLNDC*FIPCTPK	C143 C199 C143 C199	2.22463	P11586 F5H2F4 P11586 F5H2F4	2
SVC*TEAGMFAIR	C389 C252 C389 C252	2.221705	P35998 P35998 P35998 P35998	3
SVLC*STPTINIPASPFMQK	C22	2.219887273	Q96KB5	4
C*ASQVGMTAPGTR	C236 C204 C215 C236 C204 C215 C236 C204 C215	2.218394	B4DUT8 B4DDF4 Q99439 B4DUT8 B4DDF4 Q99439 B4DUT8 B4DDF4 Q99439	2
VAMKHPASVTAC*NLDLENLIT DSNR	C325 C325 C325 C325	2.2163725	Q9UBF2 Q9UBF2 Q9UBF2 Q9UBF2	2
SASLDNGGC*ALTTFSVLEGE K	C34 C27 C92	2.215066667	P35610 P35610 P35610	3
QSELEPVVSLVDVLEEEDEELE NEAC*AVLGGSDSEK	C35 C35	2.21443	Q8N806 Q8N806	4
AGAPDEAVCGENVSQIYC*AL LGCMDDYTTDSR	C850 C850 C850 C850 C850 C850	2.213625	Q9BTW9 Q9BTW9 J3KR97 Q9BTW9 Q9BTW9 J3KR97	3
PMC*IPPSYADLGK	C13 C13 C13 C13 C13 C13	2.204620556	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	4
VKQEPGTEDEIC*SFSGGVK	C786 C786 C786 C547 C786 C786 C786 C547	2.19982	Q9UPN9 E7EN20 Q9UPN9 H0Y612 Q9UPN9 E7EN20 Q9UPN9 H0Y612	2
DLQPFPTC*QALVYR	C404 C404	2.1971075	Q14137 Q14137	2
VHIPNDDAQFDASHC*DSDKG EFGGFGSVTGK	C141 C97 C141 C97	2.196015	Q16576 Q16576 Q16576 Q16576	2
AGSDGESIGNC*PFSQR	C35 C35 C35 C35 C35 C35	2.194554211	Q9Y696 Q9Y696 Q9Y696 Q9Y696 Q9Y696 Q9Y696	4
VC*EDLDTSVNLAWTSGTNCT R	C210 C210 C210 C210 C210 C210	2.193885714	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	3

LSAPGC*WAACTNFSR	C12 C12 C12	2.189776667	Q04941 Q04941 Q04941	2
RVNSDC*DSVLPSNFFLLGGNIF DPLNLNSLLDEEVSR	C177	2.189566667	Q7L2J0	4
ALVPLGIGIATGEQC*HNR	C307 C225 C307 C225	2.1887	Q7L5Y1 Q7L5Y1 Q7L5Y1 Q7L5Y1	2
VPADTEVVC*APPTAYIDFAR DKPELQFPFLQDEDTVATLLE C*K	C42 C79 C42 C79 C42 C79	2.188168571	P60174 P60174 P60174 P60174 P60174 P60174	4
VC*ALLSCTSHK	C29 C49	2.187347273	P09543 P09543	4
VDSPSHGLVTSSLC*IPSPAR	C299	2.185985	P15121	2
NSPLPNC*TYATR	C699 C624	2.18095	Q9UER7 Q9UER7	2
	C275 C340 C350 C275 C340 C350	2.180375	Q5JTD0 Q5JTD0 Q5JTD0 Q5JTD0 Q5JTD0 Q5JTD0	2
NTVLC*NVVEQFLQADLAR	C70 C70 C70 C70 C70 C70 C70	2.179093	Q14258 Q14258 Q14258 Q14258 Q14258 Q14258 Q14258	4
KAEGDLGPSWVC*GFSNLES QVLEK	C184	2.17829	Q15814	2
TTPVDLC*LLEESVGSLEGR	C1499 C1499	2.17173	Q9UUK3 Q9UUK3	2
HQCTCIDGAVGCIPLC*PQELS LPNLGCPNPR	C134 C134 C134 C134 C134 C134 C134 C134	2.169285	O00622 A0A087WVM3 O00622 A0A087WVM3 O00622 A0A087WVM3 O00622 A0A087WVM3	3
SC*LSPKPPQGGQEQQGEDE VVLVEGPTLPETPR	C232 C232 C232	2.164954286	Q8NCF5 Q8NCF5 Q8NCF5	4
VEEVWLAELQGPC*PQAPPLE PGAQALAYRPVSR	C131 C131 C131	2.164645	E5RGF1 E5RFV4 Q9H8N7	2
AIHTAPVATMAFDPTSTLLATG GC*DGAVR	C129 C37 C129 C37	2.16225125	Q12788 J3KNP2 Q12788 J3KNP2	3
FDPTQFQDC*IIQGLTETGTDL EAVAK	C39 C67 C35 C39 C67 C35 C35 C39 C67 C35	2.160005	Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6	4
SASASPLTPC*SVTR	C373 C373 C336	2.159953333	Q3KQU3 Q3KQU3 Q3KQU3	2
VICAEEPIC*K	C456 C357 C456	2.159345	P49915 P49915 P49915	2
LSC*QPMLSLDDFQLQPPVTF R	C105 C105	2.156455	O75607 O75607	2
QQFTDDQLLVLTDLLVSPC*YY A	C1840	2.151595	Q14997	2
DVQIGDIVTVGEC*RPLSK	C131 C131 C131 C131 C131 C131 C131 C131	2.149510667	P62280 P62280 P62280 P62280 P62280 P62280 P62280 P62280	4
AGYDGESIGNC*PFSQR	C487 C469	2.146478333	Q96NY7 Q96NY7	3
GLESTTLADKDGEIYC*K	C167 C167	2.144926	P21291 P21291	2
PC*GEDWLSHPLGIVQGFFAQ NGVNPDWEK	C3 C3 C3 C3 C3 C3 C3 C3 C3 C3	2.144410714	Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3	4
VWNNSSSTVNAVPPVC*DV AR	C558 C558	2.143153333	Q96EN8 Q96EN8	2
ELDLSNNC*LG DAGILQLVESV R	C409 C409 C409 C409 C409 C409 C409	2.141743125	P13489 P13489 P13489 P13489 P13489 P13489 P13489	4
GGSC*SQAASSNSAQGSDES LIACKA	C345 C345 C345 C305 C345 C351 C351 C351 C345 C345 C345 C345 C345 C305 C345 C351 C351 C351 C351 C345 C345	2.13667	Q29960 Q9TNN7 Q07000 Q29960 P30508 A0A140T912 A0A140T9J9 A0A0G2JH50 P30505 Q29963 Q29960 Q9TNN7 Q07000 Q29960 P30508 Q95604 A0A140T912 A0A140T9J9	2

			A0A0G2JH50 P30505 Q29963	
DLNYC*FSGMSDHR	C81 C23 C267 C267 C267 C142 C81 C23 C267 C267 C267 C142 C81 C23 C267 C267 C142 C267 C267	2.134985	H0YBD7 H0YBG7 G8JLB6 E9PCY7 P31943 H0YB39 H0YBD7 H0YBG7 G8JLB6 E9PCY7 P31943 H0YB39 H0YBD7 H0YBG7 G8JLB6 P31943 H0YB39 E9PCY7 P55795	4
RANNNAAVAP TTC*PLQP VTD PFAFSR	C46 C46 C46 C46 C46 C46 C46	2.134116923	J3KNL6 J3KNL6 F1T0I1 J3KNL6 F1T0I1 J3KNL6 F1T0I1	4
VLTC*TDLEQGNFFLDFENA QPTSEK	C10 C10 C10	2.132530556	Q9NUQ9 Q9NUQ9 Q9NUQ9	4
ADIIVSELLG SFADNELSPEC*L DGAQHFLKDDGV SIPGEYTSF LAPISSK	C449 C449 C449 C405	2.132203333	O14744 O14744 O14744 O14744	2
FSFC*CSPEPEAEAEAAAGPG PCER	C26 C26	2.129977273	E7EMC7 Q13501	4
EAQAAMEGLNGQDLMGQPIS VDWC*FVR	C149 C148 C81 C149 C148 C81	2.12645	Q9Y5S9 Q9Y5S9 A0A0J9YW13 Q9Y5S9 Q9Y5S9 A0A0J9YW13	2
DGIILC*ELINK	C59 C18 C59	2.124865	Q15417 Q15417 Q15417	2
GYC*FSASLP LLA AAAIEALNI MEENPGIFAVLK	C336	2.12329	O15269	2
FSTQGMGT FNPADYSDSTST DVC*GTK	C208 C85 C208 C85	2.118515	Q5T6F2 Q5JV08 Q5T6F2 Q5JV08	2
NIIQPPSCVLHYYNVPLC*VTE ETFTK	C459 C430 C464 C464 C459 C430 C459 C430 C464 C464 C459 C430	2.11282	Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3 Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3	3
LLQPDFQPVC*ASQLYPR	C265 C201 C258 C265 C258 C265 C201 C258 C265 C201 C258	2.111883333	Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0	4
AGDELAYNSSSAC*ASSR	C362 C239 C362 C239	2.111351667	Q86Y37 Q86Y37 Q86Y37 Q86Y37	3
LLEQAEAE GC*QR	C326	2.111	Q9UBN6	2
YQVTWYTSWSPC*PDCAGEV AEFLAR	C97 C97 C97 C97	2.1107	Q9NRW3 Q9NRW3 Q9NRW3 Q9NRW3	4
C*LHPLANETFVAK	C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71 C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71 C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71	2.106922857	A0A0D9SFB0 Q13642 Q13642 A0A0D9SGB2 A0A0D9SFZ9 Q13642 Q13642 A0A0D9SF16 A0A0D9SG53 Q13642 A0A0D9SFB0 Q13642 Q13642 A0A0D9SGB2 A0A0D9SFZ9 Q13642 Q13642 A0A0D9SF16 A0A0D9SG53 Q13642 A0A0D9SFB0 Q13642 Q13642 A0A0D9SGB2 A0A0D9SFZ9 Q13642 Q13642 A0A0D9SF16 A0A0D9SG53 Q13642	4
FMADC*PHTIGVEFGTR	C40 C40	2.10613	P61106	4
THPSAAV PVC*PR	C361 C361 C324 C361 C324	2.105894	Q3KQU3 Q3KQU3 Q3KQU3 Q3KQU3 Q3KQU3	3
APVPSTC*SSTFPEELSPPSH QAK	C160	2.10502	A0A087WY61	2
DC*QIAHGAAQFLR	C1018 C1086 C1093	2.098435	C9J4M6 C9J2Y9 P30876	4

FSLC*SDNLEGISEGPSNR	C568 C568 C427 C568 C568 C568 C568 C431 C568	2.097746667	Q14C86 B4DGD8 A0A0A0MQV8 Q14C86 Q14C86 Q14C86 C9IZ08 H0Y7I9 Q14C86	2
PCSRAITPEC*VVGWSR	C242 C242 C242	2.096756667	Q96MC9 Q96MC9 Q96MC9	3
TFC*GTPEYLAPEVLEDNDYGR	C310 C248	2.096546	P31749 P31749	4
DASALLDPMEC*TDAAEQR	C287 C287 C287 C287	2.092026667	Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3	4
GYWASLDASTQTTHLTPNN LIGC*IIGR	C293 C293 C293 C293 C293	2.08766375	Q15365 Q15365 Q15365 Q15365 Q15365	4
SSLPEFQAAPAEPEPEPLL QVTLVDC*PGHASLIR	C93 C66 C93	2.0873	P57772 P57772 C9J8T0	2
TGLC*YLPEELALQK	C35 C46 C46 C46 C35 C46 C46 C35 C46	2.08397	Q13045 Q13045 Q13045 J3KS54 Q13045 Q13045 J3KS54 Q13045 Q13045	4
C*AGNEDIITLR	C81	2.083201	P12004	4
LVC*GMVSYLNDLPSQR	C449 C411 C449	2.083005	Q15067 Q15067 Q15067	2
VHVASVNNFPTAAGLASSAAG YAC*LAYTLAR	C133 C133	2.080574	P53602 P53602	2
TDLVPAFQNLKDC*EAEVR	C294 C294	2.079915	P30153 P30153	2
C*VLNWFQDWSTEALYQVGK	C3089 C3089	2.073743333	Q14204 Q14204	2
QALVNC*NWSSFNDETCLMMI NMFDK	C146 C146 C146	2.07307375	Q9UBV8 Q9UBV8 Q9UBV8	3
SYDPPC*PGHWTPEAPGSGT TCPGLPR	C109 C32 C109 C109 C109 C171	2.07297	H3BM67 J3QLT7 H3BUN4 O60936 H3BUP2 O60936	4
LALFNPDVC*WDR	C44 C44 C44 C44 C44	2.071253333	O00483 O00483 O00483 O00483 O00483	4
LVFLAC*CVAPTNR	C301	2.070915	Q14566	3
NC*IPIGEQLQSVLGNNGYK	C218 C218	2.069225	Q9H8K7 Q9H8K7	2
C*SDWASAVEEDEMR	C80 C72 C72 C33	2.06897	H7C4H8 F8W8D3 Q14493 Q14493	2
SSVQEEC*VSTISSKDEDPLA ATR	C78 C78 C78 C78	2.067582	C9JVB6 Q7LOY3 C9JVB6 Q7LOY3	2
VCLYLTS*VNVVPEPENSALL R	C236	2.06654	Q13200	2
QSSAVMALQEACEAYLVGLFE DTNLC*AIHAK	C111	2.062896667	P68431	3
AYHEQLSVAEITNAC*FEPANQ MVK	C295 C295 C295 C295 C295 C295 C280 C295	2.062265704	P68363 Q71U36 P68366 Q13748 P68363 Q71U36 P68366 P68366	4
VLPNLP*VVQEGAIMAR	C129 C141 C129 C141 C129 C141 C129 C141 C129 C141 C129 C141	2.059966667	Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1	4
VVFFFYPLDFTFVC*PTEIIAFS DR	C52 C52 C52 C52	2.0579975	Q06830 A0A0A0MSIO Q06830 A0A0A0MSIO	3
VLDALFPCVQGGTTAIPGAFG C*GK	C254 C221 C254 C221 C254 C221 C254 C221 C254 C221	2.053991111	P38606 P38606 P38606 P38606 P38606 P38606 P38606 P38606 P38606 P38606	4
AAGIIHLGATSC*YVDNTDLII LR	C113 C113	2.05320125	P30566 P30566	2
VVFIKPTC*PYCR	C23 C23 C23 C23	2.052740909	P35754 P35754 P35754 P35754	4
VGVGPGSVC*TTR	C186 C186	2.051405	P36959 P36959	2
FVVDVDKNIDINDVTPNC*R	C112 C104 C104 C104 C112 C35 C104 C104 C104 C104	2.044815	P62195 J3KRP2 J3QSA9 P62195 P62195 J3QRW1 J3KRP2 J3QSA9 J3QLH6 P62195	3
AC*PSHQPDISSGLELPPPGV PTLDNIK	C311 C284	2.04475	Q16610 Q16610	2

EC*PSDEC*GAGVFMASHFDR	C121 C126 C121 C126 C121 C126 C121 C126	2.043283333	P62979 P62979 P62979 P62979	3
MTVDESGQLISC*SMDDTV	C382	2.042886	O75083	3
SIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C332 C347 C332 C347 C332 C347	2.042321212	P68363 P68363 P68363 P68366 P68366 P68366 P68363 P68363 P68366 P68366 P68363 P68363 P68366 P68366 P68363 P68363 P68363 P68366 P68366 P68366 P68366 P68366 P68366	4
NVLDESDVWMVEFYAPWC*G HCK	C190 C238 C242 C195 C187	2.0408132	Q15084 Q15084 Q15084 Q15084 Q15084	4
AGEGTYALDSESC*MEK	C272 C255 C272	2.038733333	O00541 B5MCF9 O00541	3
ENKPSIIFIDEIDSLC*GSR	C240 C240	2.03707	O75351 O75351	2
LFDFLGSLLTTC*SSDVPLLR	C2111 C2111	2.034	O95714 O95714	2
YQEAAPNVANNTGPHAASC*F GAK	C564 C295 C517 C564 C618 C618 C517 C618 C295 C564 C618 C295 C517 C517 C517 C295 C295 C564 C618 C517 C295 C618 C517 C564 C564 C618 C517 C295 C564 C564 C618 C618 C295	2.033	O60716 O60716 O60716 O60716 O60716 C9JZR2 O60716	2
GNVAGDSKNDPPMEAGFTA QVILNHPGQISAGYAPVLDL* HTA	C363 C361	2.028256364	P68104 A0A087WV01	3
LNNLIC*DESDVK	C361 C362 C361 C361 C361 C362 C361 C361	2.027666	Q96EB1 Q96EB1 Q96EB1 G5E9D4 Q96EB1 Q96EB1 Q96EB1 G5E9D4	3
LEFSIYPAPQVSTAVVEPYNSI LTTHTTLEHSDC*AFMVDNEAI YDICR	C200 C185 C200 C185 C200 C185 C200	2.025648333	Q9BQE3 Q9BQE3 Q9BQE3 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 Q9BQE3 P68363 Q71U36 P68366 Q9BQE3 P68363 Q71U36 P68366 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 P68366 P68366 P68366	4
TMC*PLLSMKPGEYSYFSPR	C407 C418 C407 C418	2.0243275	E9PHA2 Q15003 E9PHA2 Q15003	2
LFDDPDLGGAIPLGDSLLLPAA C*ESGGPTPSLSHR	C287 C106 C81 C80 C40 C287 C287 C106 C81 C80 C40	2.02403	Q53T59 H7BZZ1 F8WDN8 H7C0Y9 H7BZ19 Q53T59 Q53T59 H7BZZ1 F8WDN8 H7C0Y9 H7BZ19	4
VC*IESEHSMDTLLATLKK	C41 C41 C41	2.02005	O00244 O00244 O00244	4
CENCDC*LQGFQLTHSLGGGT GSGMGTLISK	C476 C129	2.019662	A0A0B4J269 Q13509	3
ALQSNIIFFC*DEVMQLLENL GNENVHR	C544 C689	2.019193333	Q14974 Q14974	2
LVTSPCC*IVTSTYGWANME R	C598 C720 C598 C720 C598 C720	2.017733333	P07900 P07900 P07900 P07900 P07900 P07900	2
LMEQLLSSVGFC*TEVEEDLID AVTGLSGSGPAYAFTALDALA DGGVK	C159 C186 C129 C159 C159 C186 C129 C159 C159 C186 C159	2.016868889	P32322 P32322 J3QKT4 P32322 P32322 P32322 J3QKT4 P32322 P32322 P32322 P32322	3
HSTSETEQLLC*GRPPDLTALS R	C420 C420	2.01487	Q96R06 Q96R06	2
HVLALTGC*GPGR	C51 C51 C51 C51	2.0142875	Q9BTY7 Q9BTY7 Q9BTY7 Q9BTY7	4

QGFGNLPIC*MAK	C863 C919 C863 C919 C906 C907 C841 C906 C907 C841	2.013645556	P11586 F5H2F4 P11586 F5H2F4 Q6UB35 B7ZM99 A0A087WVM4 Q6UB35 B7ZM99 A0A087WVM4	3
APPWVPAMGFTLAPSLGC*FV GSR	C19 C19 C19 C19 C19 C19	2.012488	B1AH87 P30536 B1AH87 P30536 B1AH87 P30536	3
AGEVVPAMYQFSQYVC*QQ TGLQIPQLPAPPK	C82 C60 C82 C60 C82 C60 C82 C60	2.01211	A0A140TA86 K7EIR2 A0A140TA84 A0A140TA86 K7EIR2 A0A140TA84	3
FLEQQTLC*NNQVNDLTALK	C218 C296 C218 C296 C218 C296	2.009646	V9GY01 Q9Y448 V9GY01 Q9Y448 V9GY01 Q9Y448	3
DIDFLKEEEHDC*FLEEIMTK	C173 C173	2.0086025	P12268 P12268	2
NC*VLLSRPEISTDER	C484 C854 C853 C484 C854 C853	2.00702	E9PDM8 O94855 O94855 E9PDM8 O94855 O94855	2
SLPDC*TPHPNSISIDAGPR	C197 C42 C736 C733 C29 C197 C42 C736 C733 C29	2.006676667	Q9Y2H0 F8WF49 Q9Y2H0 Q9Y2H0 A0A0B4J2C2 Q9Y2H0 F8WF49 Q9Y2H0 Q9Y2H0 A0A0B4J2C2	4
IRPLNSEGTLNLLNC*EPPR	C1517 C1517	2.005062	Q9Y5S2 Q9Y5S2	4
IAPC*PSQDSLSDPLDSTSAQ AGEGVQR	C308 C308 C308 C169 C308	2.002441667	Q99704 Q99704 Q99704 Q99704 Q99704	4
ITVVGVGQVGMAC*AISILGK YKGTLSMLQC*NVFPGLPPDF LDSEVNLFLVPFMDSEAESEN PPR	C36 C36 C36 C36	2.002236667	P07195 P07195 P07195 P07195	3
SLLINEVEASC*IR	C411 C411 C411 C411	2.00041	Q9H0W8 Q9H0W8 Q9H0W8 Q9H0W8	2
TGEPVC*VAELTEENFQR	C262 C289 C232 C262 C188 C262 C188 C262 C289 C231 C232 C262 C188 C262 C188	1.999635714	P32322 P32322 J3QKT4 P32322 J3KR12 Q96C36 A0A087WTV6 P32322 P32322 E2QRB3 J3QKT4 P32322 J3KR12 Q96C36 A0A087WTV6	2
TMHLLLEVEIEGTLQC*PES GR	C258 C258 C258 C258 C258 C258 C258 C258 C107 C258 C258 C258 C107 C258	1.9984625	Q8IUD2 Q8IUD2 G8JLD3 Q8IUD2 Q8IUD2 Q8IUD2 A0A0U1RQM4 Q8IUD2 G8JLD3 K7EPP6 Q8IUD2	2
AAVEEGIVLGGGC*ALLR	C100 C95	1.995202308	Q9UI30 Q9UI30	4
VIIVQAC*R	C442 C442 C442 C442 C442 C442 C442 C442 C442 C442	1.994622791	P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809	4
SGDAAIVEMVPGKPMC*VESF SQYPLGR	C328 C258 C258 C257 C315 C173 C202 C211 C245 C328 C258 C258 C257 C315 C173 C202 C211 C245	1.992448	P51878 P49662 P49662 P51878 P51878 P51878 P49662 A0A087WZP8 P51878 P51878 P49662 P49662 P51878 P51878 P51878 P49662 A0A087WZP8 P51878	3
C*LHMFLQEEAIDR	C411 C411 C411 C411	1.988716341	Q05639 Q05639 Q05639 Q05639	4
AHFYDPSDDPYVPC*R	C137 C141 C141 C141 C137 C141 C141 C141	1.98788	Q9UMY4 Q9UMY4 A0A087 Q9UMY4 Q9UMY4 Q9UMY4 A0A087 Q9UMY4	2
AAISDSADC*SLSPDVPVLA FQR	C366 C332 C366 C332	1.985166	Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9	3
	C746 C806 C790 C806 C803 C790 C520 C790 C803 C803 C746 C790 C803 C746 C746 C806 C790 C806 C803 C790	1.984155	Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0 Q5VWU8 Q8TEW0 F5GZ13 Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0	3

	C520 C790 C803 C803 C746 C790 C803 C746		Q8TEW0 Q5VWV2 Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0 Q5VWU8 Q8TEW0 F5GZI3 Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0 Q8TEW0 Q5VWV2	
AGAPDEAVC*GENVSQIYCAL LGCMDYYTDSR	C841 C841 C841 C841 C841 C841	1.982786667	Q9BTW9 Q9BTW9 J3KR97 Q9BTW9 Q9BTW9 J3KR97	2
DC*FLELAPDFVGDILWEHLEIL QK	C156 C112 C112 C112	1.978546667	P14921 P14921 P14921 P14921	2
AAGC*NIPVASVAAGFPAGQT HLK	C30 C118 C118 C30 C139 C30 C118 C30 C30 C118 C118 C30 C139 C30	1.977086667	E9PMH9 Q9Y315 E9PPM8 E9PPK3 E9PML7 G3V158 Q9Y315 G3V158 E9PMH9 Q9Y315 E9PPM8 E9PPK3 E9PML7 G3V158	4
AFQYVETHGEVC*PANWTPDS PTIKPSAASK	C229 C211 C229 C211 C229 C229 C211 C229	1.9770544	P30048 P30048 P30048 P30048 P30048 P30048 P30048 P30048	4
FCSFSPC*IEQVQR	C209 C111	1.97701	H0Y2Q1	2
FTDDTFC*EACK	C68 C68	1.97529	Q6IQ22 Q6IQ22	2
EMFPYEASTPTGISASC*R	C363 C323 C254 C363 C323 C254	1.974765556	P42167 G5E972 P42167 P42167 G5E972 P42167	3
PASTAHMGNC*LGWLCLTPG NQVVQR	C51 C51	1.972075	H3BMF5 H3BMF5	2
DLPLMALPPC*HALCQFYVVN SELSCQLYQR	C195 C161 C195 C195	1.971723333	P04818 P04818 P04818 P04818	4
AINC*ATSGVVGLVNCLR	C1448 C1448 C1448 C1448 C1446 C1448 C1446 C1448 C1448 C1448 C1448 C1448	1.970319444	P49327 P49327 P49327 P49327 A0A0U1RQF0 P49327 A0A0U1RQF0 P49327 P49327 P49327 P49327 P49327	4
LNPTYEEQDC*GPPGRPPR	C397 C313	1.969606667	Q6ZV89 Q6ZV89	3
LQFHDVAGDIFHQQC*K	C385 C415 C431 C385 C415 C431	1.9685325	P11413 P11413 P11413 P11413 P11413 P11413	3
AENGLLMTPC*YTANFVAPEV LKR	C559 C564 C584 C575 C483 C579 C559 C564 C584 C575 C483 C579 C579 C559 C564 C584 C575 C483	1.968111429	Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812 P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418	4
AITIAGIPQSIIEC*VK	C158 C158 C158 C158 C158 C158	1.96739	Q15366 Q15366 Q15366 Q15366 Q15366 Q15366	3
PEIVDTC*SLASPAVCR	C8 C8 C8 C8	1.966454	P09960 P09960 P09960 P09960	3
GQDHC*GIESEVVAGIPR	C319 C319	1.96613	P07858 P07858	2
RQDSDLVQC*GVTSPPSAEAT GK	C261	1.966093333	Q9HC52	2
VWLQYQC*LWDMQAENIYNR	C1059 C1059 C1059 C1059	1.963456	Q14204 Q14204 Q14204 Q14204	3
AAIGC*GIVESILNWVK	C441 C405 C431 C486 C441 C405 C431 C486 C441 C405 C431 C486 C441 C405 C431 C486	1.963268	P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388	3
C*ASQSGMTAYGTR	C196 C164 C175	1.96326	B4DUT8 B4DDF4 Q99439	3
AIVLFTSDAC*GLSDVAHVESL QEK	C193 C173 C326 C193 C173 C326	1.96300125	P24468 P24468 P24468 P24468 P24468 P24468	4
LANLAATIC*SWEDDVNHSFAK	C210 C210 C210	1.961646667	Q9NQW6 Q9NQW6 Q9NQW6	3
SLDDSQC*GITYK	C282 C282	1.960474	Q9NVG8 Q9NVG8	3

EVIIVSCGPAQC*QETIR	C162 C71 C162 C71 C162 C71	1.960265714	P38117 P38117 P38117 P38117 P38117 P38117	4
MLPTYVC*ATPDGTEKGDFLA LDLGGTNFR	C517 C489 C517 C489 C517 C517	1.958452667	P52789 E9PB90 P52789 E9PB90 P52789 P52789	4
TPDTSTYC*YETAEK	C2041 C2041	1.95844	P46821 P46821	2
ENFDEVVNDADIILVEFYAPWC *GHCK	C206 C206 C206 C206 C206 C206	1.955723684	P13667 P13667 P13667 P13667 P13667 P13667	4
GLIDYNFHC*FR	C358 C358	1.955465	Q9HB90 Q9HB90	2
VTAVDWHFEEAVDGECP*PPQ R	C1374 C1311 C1374 C1311	1.95545	P27708 F8VPD4 P27708 F8VPD4	2
MDILDVLTAAQELSRPGC*LG R	C628 C628 C628 C102 C628 C628 C102	1.954342143	Q9Y4R8 Q9Y4R8 Q9Y4R8 H3BU45 Q9Y4R8 Q9Y4R8 H3BU45	4
IGTSGGIGLEPGTVVITEQAVD TC*FK	C162 C162 C162	1.952934	Q16831 Q16831 Q16831	4
GWSGNSWGGISLGPDPGPC *GETYEDFDTR	C211 C211 C211	1.952238	P82675 P82675 P82675	2
HSC*IFPGQYNPSFISDESR	C1360 C244 C1360 C244 C1360 C244	1.951866	Q9ULI3 H7C4M4 Q9ULI3 H7C4M4 Q9ULI3 H7C4M4	3
LGGSLIVAFEGC*PV	C146 C163	1.949848333	P60981 P60981	4
LLQDYPITDVC*QILQK	C387 C387 C387	1.9457825	Q9NVG8 Q9NVG8 Q9NVG8	3
HYLDQLNHILGILGSPSQEDLN C*IINLK	C254 C254	1.945317778	P28482 P28482	3
VGLGIC*YDMR	C153 C153 C153	1.944735	Q9NQR4 Q9NQR4 Q9NQR4	3
GTLTLC*PYHSDR	C779 C649 C779 C649 C779 C649 C779 C779	1.944455556	Q13200 Q13200 Q13200 Q13200 Q13200 Q13200 Q13200 Q13200	4
LNEALLEAC*VEPTDLLTTLN MLPVR	C312	1.943694	Q96AD5	3
GC*QDFGWDPFCQPDGYEQT YAEMPK	C129 C146 C105 C129 C146 C105	1.941026364	Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32	4
CC*SGAIVLTK	C424 C409 C350 C424	1.94003	P14618 P14618 B4DNK4 P14618	2
GC*FSDLIDLIDNLGPAMMLSD R	C403 C515 C211 C347 C469 C470 C118 C403 C515 C347 C469 C470	1.93714	J3QL54 Q9BW27 J3QLH0 Q9BW27 Q9BW27 J3KT10 F5HOW7 J3QL54 Q9BW27 Q9BW27 Q9BW27 J3KT10	2
ENPDLAC*LQSIIFDEERSPEE QAK	C63	1.93298	O95801	3
SSSC*GDTELLGQATLPVGSF SRPLSR	C359 C359 C107 C359 C359 C107	1.931485	O14523 O14523 E9PK05 O14523 O14523 E9PK05	2
VSLDPELEEALTSASDTELC*D LAAILGMHNLITNTK	C132	1.931190526	Q9NYL9	4
SGQAGYVPC*NILGEARPEDA GAPFEQAGQK	C543 C559 C543 C559 C543 C559	1.92951125	Q9H6S3 Q9H6S3 Q9H6S3 Q9H6S3 Q9H6S3 Q9H6S3	2
C*ASQAGMTAYGTR	C173	1.927656	Q15417	3
RVETNQDWSLMC*PNECPGL DEVWGEEFEK	C352 C352 C352	1.926460833	P23921 P23921 P23921	4
AEAEAASEVWC*R	C30 C30 C30 C30 C30 C30	1.926386667	O95081 A0A0C4DG34 O95081 O95081 A0A0C4DG34 O95081	3
LNCQVIGASVDSHFC*HLAWV NTPK	C83 C83	1.92487	Q06830 A0A0A0MSI0	3
DFQDYMEPEEGC*QGSPQR	C191 C152 C191 C152	1.92421	O43237 B4E2E0 O43237 B4E2E0	2
YDLLFMPPSFPFGGMENPCLT FVTPC*LLAGDR	C311 C311 C311 C311 C311	1.923845294	Q9H4A4 Q9H4A4 Q9H4A4 Q9H4A4 Q9H4A4	4

C*PADNPLVQAQPR	C375 C615 C375 C615	1.9234425	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	2
LSGSSLC*SGSWVSADGFLR	C39 C39 C32 C39 C39 C39 C32 C39	1.92289	F5H578 O75400 H0YG38 O75400 F5H578 O75400 H0YG38 O75400	2
TMDAGC*KPYMAPER	C232 C198 C227	1.922601667	P46734 P46734 P46734	3
SLLETNEIPSLILWGPPGC*GK	C52 C272	1.921865	Q96S55 Q96S55	3
TVEEIEACMAGC*DK	C441 C482 C441 C418 C482	1.921344286	P12955 P12955 P12955 P12955 P12955	3
AFC*ASSGSDSGGSSSSSSSS INSPDR	C127 C16 C60 C127 C16 C60 C127 C16 C60	1.920273333	Q969W3 J3KT35 J3KT52 Q969W3 J3KT35 J3KT52 Q969W3 J3KT35 J3KT52	3
FLSQIESDC*LALLQVR	C794 C766 C794 C766 C794 C766 C794 C794 C794 C794	1.917185833	P52789 E9PB90 P52789 E9PB90 P52789 E9PB90 P52789 P52789 P52789 P52789	4
KIIPTLEEGLQLPSPTATSQLPL ESDAVEC*LNYQHVK	C132 C132 C132 C132 C132 C132 C132 C132	1.916958929	P61978 P61978 P61978 P61978 P61978 P61978 P61978 P61978	4
VFFVESVC*DDPDVIAANILEV K	C158 C158 C158 C158 C158 C158 C158 C158 C158 C158 C158 C158	1.914430714	O60825 O60825 O60825 O60825 O60825 O60825 O60825 O60825 O60825 O60825 O60825 O60825	4
NSNVDSSTYLESLYQSC*PR	C645 C767 C645 C767 C645 C767	1.9135475	Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4	3
VC*VPSSASALGTASK	C508 C508 C508	1.912523333	P22681 A0A0U1 P22681	2
IIDINYYPVPEAC*LSNKR	C492 C492 C492 C492	1.912434	P23921 P23921 P23921 P23921	4
QPPWC*DPLGPFVVGEDLD PFGPR	C185 C185 C185 C185 C185 C185 C185 C185 C11 C185 C185 C11 C185 C185	1.911474118	Q5QPM7 Q92530 Q5QPM7 Q92530 Q5QPM7 Q92530 Q5QPM7 Q92530 F5H4Z3 Q5QPM7 Q92530 F5H4Z3 Q5QPM7 Q92530	4
KAGC*AVTSLLELTK	C1227 C1218 C1227 C1183 C1218 C1203 C1227 C1218 C1227 C1183 C1218 C1203	1.909225	O60610 A0A140T8Z0 A0A0G2JH68 H9KV28 O60610 O60610 O60610 A0A140T8Z0 A0A0G2JH68 H9KV28 O60610 O60610	4
ADFAQAC*QDAGVR	C131 REVERSE C131 C131	1.908895	P11498 P11498 P11498	3
IDPTVTMMQVEEKPDVTYS GGC*K	C180 C43 C180 C43	1.907323333	P35998 P35998 P35998 P35998	2
LTEGC*SFR	C77 C77 C93 C77 C77 C93	1.906686667	P42677 Q71UM5 H0YMV8 P42677 Q71UM5 H0YMV8	2
DSC*LPSQGLSFSYGDILHVIN ASDDEWWQAR	C537 C519 C36 C182 C537 C519 C36 C182 C537 C519 C36 C182 C537 C519 C36 C182	1.906428182	Q5JUW8 Q92796 Q92796 Q92796 Q5JUW8 Q92796 Q92796 Q92796 Q5JUW8 Q92796 Q92796 Q92796 Q5JUW8 Q92796 Q92796 Q92796	4
FLENTPSSLNIEDIEFLSLAQY YC*SK	C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283	1.9060888	Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8	4

			E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8	
SHLLAADAPSSAAWVQTLR	C115 C115 C115	1.90499	Q99704 Q99704 Q99704	3
GDFYVIEYAAAC*DATYNEIVTL ER	C109 C109 C109 C109 C109	1.903851818	P51116 P51116 P51116 P51116 P51116	4
RVDDFEAGAAAGAAPGEEDL C*AANVICDNVVK	C98 C98 C98 C98 C98	1.902345625	Q13158 Q13158 Q13158 Q13158 Q13158	4
YC*AAPTEPVIHNGSQGTGTN GSEISDSYQAEYPDEYHGEY QDDYPR	C273	1.899958	Q15417	2
C*DQDAQNPLSAGLQGAC*LM ETVELLQAK	C240 C256 C245 C261 C124 C140 C242 C258 C240 C256 C240 C256 C245 C261 C124 C140 C242 C258 C240 C256	1.897295	F8W116 Q13561 H0Y198 Q13561 Q13561 F8W116 Q13561 H0Y198 Q13561 Q13561	2
SDQGVGPGGTGGSGSSPN DPVTNIC*QAADK	C150 C340 C340 C150 C340 C340	1.895764	A0A0G2JKR7 P28702 P28702 A0A0G2JKR7 P28702 P28702	3
QILLGIQELLNEPNIQDPAQAE AYTIYC*QNR	C138 C138 C138	1.893844444	P63279 P63279 P63279	3
GIDQC*IPLFVEAALER	C757 C757 C757 C757 C757 C757	1.89041	O95373 O95373 O95373 O95373 O95373 O95373	4
HLQTVQQNTIYTC*ATPLQEAL AQAFWIDIK	C313 C279 C313 C149 C279 C313 C149 C279	1.88917875	Q6YP21 Q6YP21 Q6YP21 A0A0A0MRN6 Q6YP21 Q6YP21 A0A0A0MRN6 Q6YP21	3
VTELQQQPLC*TSVNTIYDNAV QGLR	C277 C277 C277 C277	1.886715	Q96AG4 Q96AG4 Q96AG4 Q96AG4	4
IYHPNINSNGSIC*LDILR FSLDEEAILPDQIVC*SPVPM LR	C85 C47 C56 C86 C56 C85 C85 C85 C56 C85 C87 C79	1.886186842	P51668 A0A087WW00 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	4
KIPC*DVTEAEIISLGLPFGK	C40 C74 C71 C37 C40 C68 C40 C74 C71 C37 C40 C68	1.88463	Q9H0D6 Q9H0D6 Q9H0D6 Q9H0D6	3
SVLLCGIEAQAC*ILNTTLDLLD R	C114 C114 C114 C114 C114 C114 C114 C114 C114	1.883505	K7ENV7 K7EKW4 Q96AB3 K7ENV7 K7EKW4 Q96AB3 K7ENV7 K7EKW4 Q96AB3	3
KAGSC*QQGSGPAASAATASP QLSSEIENLMSQGYSDIQL AEVLIVGPEDC*VVPFLTRP K	C840 C796 C840	1.88316	P22681 A0A0U1RR39 P22681	2
KVAEPELMGTPDGTG*YPPPP VPR	C38 C38	1.88146	P56192 P56192	4
IVGIGYNGMPNGC*SDDVLPW R	C1889 C1826 C1889 C1826	1.88135	P27708 F8VPD4 P27708 F8VPD4	4
ILSLIC*NSSSEKPTVQQLQILW K	C71 C60 C71 C60 C60 C71 C60 C71 C60	1.88082125	P32321 P32321 P32321 P32321 D6RBJ9 P32321 P32321 P32321 P32321	4
AC*YLSINPQKDETELEK	C584	1.88069	Q9Y263	2
MSAYAFFVQTC*R	C222 C222	1.879839286	P61163 P61163	4
IDPENAEFLTALC*ELR	C23 C23 C23 C23 C23 C23 C23 C23	1.8791675	E7EQU1 O15347 E9PES6 E7ES08 E7EQU1 O15347 E9PES6 E7ES08	3
	C428 C476 C428 C476	1.8790725	Q13325 Q13325 Q13325 Q13325	3

DGFYEAELC*PDR	C105 C105 C92 C105 C105 C96 C74 C116 C74 C105 C105 C105 C105 C74 C105 C105 C105 C92 C105 C105 C96 C74 C116 C74 C105 C105 C105 C105 C74 C105 C105 C105 C92 C105 C105 C96 C74 C116 C74 C105 C105 C105 C105 C74 C105 C105 C105 C92 C105 C105 C96 C74 C116 C74 C105 C105 C105 C105 C74 C105	1.87852	Q04206 Q04206 Q04206 E9PKV4 A0A087 E9PQS6 E9PJR1 E9PKH5 Q04206 E9PNV4 E9PMD5 A0A087WVP0 E9PI38 Q2TAM5 Q04206 Q04206 Q04206 E9PKV4 A0A087 E9PQS6 E9PJR1 E9PKH5 Q04206 E9PNV4 E9PMD5 A0A087WVP0 E9PI38 Q2TAM5 Q04206 Q04206 Q04206 E9PKV4 A0A087 E9PQS6 E9PJR1 E9PKH5 Q04206 E9PNV4 E9PMD5 A0A087WVP0 E9PI38 Q2TAM5 Q04206 Q04206 Q04206 E9PKV4 A0A087 E9PQS6 E9PJR1 E9PKH5 Q04206 E9PNV4 E9PMD5 A0A087WVP0 E9PI38 Q2TAM5	4
STFFNVLTNSQASAENFPFC* IDPNESRVPVDER	C55 C75 C55 C75 C55 C75 C55 C75	1.878059	Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32	4
EC*PSDECGAGVFMASHFDR	C121 C121 C121 C121	1.877849091	P62979 P62979 P62979 P62979	4
LGPGRPLPTFPTSEC* TSDVE PDTR	C73 C73 C73 C73	1.876761429	Q8TDD1 Q8TDD1 Q8TDD1 Q8TDD1	3
YSDVEVPASVTGYFASDGDS GTC*SPLR	C430 C430	1.875471667	P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611	3
VAAASGHC*GAFSGSDSSR	C919 C947	1.874905	Q9NZB2 Q9NZB2	2
IGAAIQEELGYNC* QTGGVIAEI LR	C112 C112	1.873120769	O00567 O00567	4
GAFC*DLVWSDPEDVDTWAIS PR	C229 C192 C229 C192 C229 C192 C229 C192 C229 C192 C229 C192	1.872731	O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743	4
EEC*PVFTPPGGETLDQVK	C55 C114 C55 C114	1.872375	A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88	2
QIHEGASLPFFEVFDAPLHV C*EQR	C165	1.870969286	O43252	4
DLSYC*LSGMYDHR	C267	1.870004737	P52597	4
MKVELC*SFSGYK	C6 C6 C6	1.867922308	P83731 C9JNW5	4
AAAENLPVPAELPIEDLC* SLT SQLPIELTSVVPESTEDILLK	C65 C65	1.867268889	Q96JB2 Q96JB2	4
STGVVNIPAAEC* LDEYEDDEA GQKER	C119 C173 C119 C173 C119 C173 C119 C173	1.864881176	H0Y116 Q96IZ0 H0Y116 Q96IZ0 H0Y116 Q96IZ0 H0Y116 Q96IZ0	3
NVTQIEPFC*LETD RR	C594 C630	1.863156667	Q9ULW0 Q9ULW0	2
VIEINPYLLGTMSGC* AADQCQY WER	C116 C120 C120 C116 C120 C120 C116 C120 C120 C116 C120 C120	1.860458824	P28062 P28062 P28062 P28062 P28062 P28062 P28062 P28062	4
TDETYCIDNEALYDIC*FR	C193 C193 C193 C211 C211 C211 C141 C141 C141 C211 C211 C211 C211 C211 C211 C211	1.860363043	Q5JP53 Q5JP53 Q5JP53 P68371 P68371 P68371 M0QYM7 M0QYM7 M0QYM7 Q9BUF5 Q9BUF5 Q9BUF5	4

	C211 C211 C558 C211 C558 C211 C558 C211		P04350 P04350 P04350 Q9BVA1 Q9BVA1 Q9BVA1 A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509	
NLLC*GFYGR	C247 C247 C247 C247	1.858123333	Q9UH17 B0QYD3 Q9UH17 B0QYD3	2
VFSANSTAAC*TELA K AFPQLGGRPGPEGE SLESQ PPPLQTQAC*PESS CLR	C19 C48 C19 C48 C79 C79	1.856115 1.853215	Q14558 Q14558 Q14558 Q14558 O94992 O94992	3 2
LHMTIFSQSVSPC*GK	C35 C35 C35 C35	1.85294125	Q86W42 Q86W42 Q86W42 Q86W42	3
VVEPYNATLSIHQL VENTDETY C*IDNEALYDIC*FR	C548 C558 C201 C211 C548 C558 C201 C211 C548 C558 C201 C211 C548 C558 C201 C211 C129 C139	1.8509925	A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509 Q13509	4
IENLELMSQHGC*NAWK	C132 C132	1.85064	O75934 O75934	2
SVQFVDWC*PTGFK	C354 C314 C354 C314 C354 C314	1.8499525	A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2	3
SNLQEIFLPAFPC*HER	C337 C337	1.84957	Q9NPG8 Q9NPG8	3
ASATGMIIMDGVEV PEENVLP GASSLGGPFGC*LNNAR	C289 C289	1.849423333	Q92947 Q92947	2
AHSNPDFLPVDNC*LQSVL GQ R	C798 C703 C798 C703 C798 C703 C798 C703	1.84903375	Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9	4
QEEVC*VIDALLADIR	C971 C971 C971 C971 C971 C971	1.848443333	Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81	2
VSDTVVEPYNATLSVH QLVEN TDEYISIDNEALYDIC*FR	C211 C211 C211 C211 C211 C211	1.84498	Q13885 Q13885 Q13885 Q13885 Q13885 Q13885	4
AQIIELLC*IVEALKK	C595	1.84426	Q9Y5K6	2
FNPEAGANC*LVK	C449	1.8413	O14777	2
ADFVC*STVQKPDAA NYYYYLIL K	C819 C782 C819	1.84063	Q9NQW6 Q9NQW6 Q9NQW6	3
DIIEHLNTSGAPADTSD PLQQI C*K	C475 C399 C475 C399 C475 C399	1.840511429	P37198 P37198 P37198	3
VTFSC*AAGFGQR	C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118	1.84024625	Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203	3
SDFSWAAGQGYC*QGGF SAE FTK	C205	1.83227	P08648	3
LC*PQFLQLASANTAR	C264 C264 C264 C264 C264 C264 C264 C264 C264	1.831775714	O95630 C9JK83 O95630 O95630 C9JK83 O95630 O95630 C9JK83 O95630	4
LC*DFGISGQLVDSIAK	C246 C257 C246 C257 C246 C257 C246 C257	1.830853077	P45985 P45985 P45985 P45985 P45985 P45985 P45985 P45985	4
LIVGLMRPPAYC*DAK	C96 C64	1.830665	P08133 P08133	2
LMGLLSDPELGPAADG FSL MSDC*TDVLTR	C869 C848 C805 C869 C848 C805 C869 C848 C869	1.830497143	Q96T76 Q96T76 Q96T76 Q96T76 Q96T76 Q96T76 Q96T76 Q96T76 Q96T76	4
LWDFQGFEC*IR	C184 C16 C184 C16 C184	1.83035	P43034 I3L3N5 P43034 I3L3N5 P43034	4
DINAYNC*EEPTK	C91 C91	1.829336667	P30041 P30041	2
QTISNAC*GTIGLIHAI ANNK	C95 C95 C95 C95 C95 C59 C95	1.828135294	P15374 P15374 P15374 A0A087WTB8	4
TDVLVLSCLDITDVAL HEVVD LFR	C106 C106 C106 C106 C106 C106 C106 C106 C106	1.827462	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	3

			Q9NR50 Q9NR50 Q9NR50	
VDDEILGFISEATPLGGIQAAS TESC*NQQLDLALCR	C561 C561	1.825796923	P42166 P42166	4
MIHSLFLINC*SGDIFLEK	C10 C10	1.825765	Q9Y2T2 Q9Y2T2	3
GVAQTPGSVEEDALLC*GPVS K	C79 C79 C79	1.8252275	Q5QPE7 Q5QPE8 Q9BQP7	2
GYWAGLDASAQTTSHELTIPN DLIGC*IIGR	C298 C302 C298 C302 C298 C302 C298 C257 C271 C267 C302	1.823704444	Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366	4
LADQC*TGLQGFLVFHSGGG TSGFTSLLMER	C129 C129 C129 C129 C129 C129	1.821685625	Q9BQE3 P68363 Q71U36 Q9BQE3 P68363 Q71U36	4
ILYLDSSSEICFPTVPGC*PGAW DVDSNPQR	C611 C621	1.821383333	Q9BSJ8 Q9BSJ8	2
ASC*TTNCLAPLAK	C152 C224 C156	1.821040149	P04406 O14556 K7EP73	4
YIIVTQVGGPQILDDPC*AHLL GPDGLPKPAA	C386	1.81836	P53602	2
TASISSPSEGTPVGSYGC*T PQSLPK	C787 C864 C787 C864	1.815062	Q6PKG0 Q6PKG0 Q6PKG0 Q6PKG0	3
C*ELFDQNLK	C157 C195 C195	1.81452	J3KP27 Q9Y296 Q9Y296	3
VMGIVENMSGFTC*PHCTECT SVFSR	C196	1.810605714	Q9Y5Y2	3
FQSSAVMALQEASEAYLVGLF EDTNLC*AIHAK	C111	1.809895926	Q71DI3	4
SEFYANEAC*K	C381 C401 C339 C339 C381 C401 C339 C219	1.80884	A0A087WT95 P49753 A0A087 A0A087WT95 P49753 A0A087 P49753	2
AHEILPNLVCC*SAK	C149 C149 C130 C149	1.808797619	P50990 P50990 P50990 P50990	4
ISFC*LDIHNMSVK	C483 C345 C483 C483	1.806178571	O43242 O43242 O43242 O43242	3
SDDPFIQVALLTSLNNANYS C*NQETIR	C419 C419	1.806105	Q7L311 Q7L311	2
EVIQSDSLWLVEFYAPWC*GH CQR	C55 C103 C107 C60 C52 C55 C103 C107 C60 C52 C55 C103 C107 C60 C52	1.805933	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	4
ISGADINSIC*QESGMLAVR	C379 C348 C379 C348	1.804053333	P43686 P43686 P43686 P43686	4
ETTQNALQTPC*YTPYYVAPE VLGPEKYDK	C203 C203	1.802117	C9J8E1 Q16644	4
NC*GC*LGASPNEQLQEENL K	C32 C34 C32 C34 C32 C34 C32 C34	1.801027778	P54136 P54136 P54136 P54136	4
EPFDLGEPEQSNGGFPC*TTA PK	C213 C277 C229 C213 C277 C229	1.796704	Q99961 Q99961 Q99961 Q99961 Q99961 Q99961	2
LTWHSC*PEDEAQ	C177 C177	1.79541	Q13185 Q13185	2
GLLDVTC*K	C120 C120 C120 C120 C120	1.795376667	P63208 F8W8N3 P63208 P63208 E7ERH2	2
AHEILPNLVC*CSAK	C148	1.7937	P50990	4
YNLSPSIFFC*ATPPDDGNLCR SAC*SLESNLEGLAGVLEADLP NYK	C99 C120 C99 C120 C44 C44 C44	1.7935725 1.793151429	H0YLA4 Q00796 H0YLA4 Q00796	2 4
EADQKEQFSQGSNSNC*LETS LAEIFPLGK	C102 C161 C102 C161	1.792658571	A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88	4
GFNKETAAC*VEK	C225 C220 C225 C220	1.792456667	Q15631 E9PGT1 Q15631 E9PGT1	2
SEGTYC*CGPVPVR	C370 C370 C370	1.791604444	P21980 P21980 P21980	4
SYC*NDQSTGDIK	C106 C106	1.790718	P00492 P00492	2
AC*QEIEALLESSLR	C247 C247 C247 C247 C247	1.790501429	P24385 P24385 P24385 P24385 P24385	4
EVFGSGTAC*QVCPVHR	C250 C342 C334 C302 C250 C342	1.78911	M0QZP4 M0QZ10 B3KSI3 O15382 O15382	2

LGTLAPFCC*PWEQLTQDWES R	C706 C706 C706 C706	1.7868875	Q99575 Q99575 Q99575 Q99575	3
ERESLNASIVDAINQAADC*W GIR	C121 C167 C121 C167	1.786788462	A0A087WYB4 Q9UJZ1 A0A087WYB4 Q9UJZ1	4
AYHEQLTVAEITNAC*FEPANQ MVK	C295 C295 C295 C295 C295	1.7867	Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3	4
FALNHPELVEGLVLINVDPC*A K	C166 C154 C166 C166 C154 C166 C71 C166 C154 C166 C71 C166 C154 C166 C77	1.786130833	Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2	4
LELASLQC*LNETLTSTCK	C394	1.784035	Q99543	2
LLNLVYDVTPELVDLVITELG MIPC*SSVPVLR	C509 C530 C509 C530 C506 C529 C508 C506 C529 C508 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530	1.781643333	Q9U110 E7ERK9 Q9U110 E7ERK9 A0A087WTA5 Q9U110 Q9U110 A0A087WTA5 Q9U110 Q9U110 Q9U110 A0A087WTA5 Q9U110 Q9U110 E7ERK9 Q9U110 A0A087WTA5 Q9U110 Q9U110 E7ERK9 Q9U110 A0A087WTA5 Q9U110 Q9U110 E7ERK9 Q9U110 A0A087WTA5 Q9U110 Q9U110 E7ERK9 Q9U110 E7ERK9	4
LSDFGLC*TGLKK	C234	1.780663333	Q15208	3
ELEVLLMC*NK	C91 C91 C109 C91 C91 C109 C91 C91 C109 C91 C91 C109 C91 C91 C109 C91 C91 C109	1.780016667	D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727	4
SLC*NLEESITSAGR	C63 C63	1.779845714	Q52LJ0 Q52LJ0	4
ECPSDEC*GAGVFMASHFDR	C126 C126	1.778528571	P62979 P62979	4
LLPAITILGC*R	C389 C442 C389 C442 C389 C442 C389 C442 C389 C442 C389 C442 C389 C442 C389 C442	1.777603077	Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6	4
HTGCC*GDNDPIDVCEIGSK	C114	1.777075	Q15181	2
SELEC*VTNITLANVIR	C27 C27 C27 C27 C27 C27 C27 C27 C27 C27	1.776165	Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5	4
YLLQYQEPIPCQLVTALC*DIK	C115 C115 C115 C115 C84 C91 C115 C115 C115 C115 C115 C84 C91 C115 C115 C115 C115 C115 C84 C91 C115 C115 C115 C115 C115 C84 C91 C115	1.77550875	P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2	4
LAIIVDEGGDALLVSLVC*R	C86 C86 C86 C86 C86 C86 C86 C86 C86 C86	1.775446667	Q15269 Q15269 Q15269 A0A0B4J2E5 Q15269 A0A0B4J2E5 Q15269	4

			A0A0B4J2E5 Q15269 A0A0B4J2E5	
LVPATQC*GSLIGK	C109 C109 C109 C109 C109 C109	1.774592	Q15365 Q15365 Q15365 Q15365 Q15365 Q15365	3
GC*IVDANLSVNLVIVK	C100 C100 C100 C100 C100 C100 C100	1.773947241	P62753 P62753 P62753 P62753 P62753 P62753 P62753	4
ENSTLNC*ASFTAGIVEAVLTH SGFPAK	C139 C139 C139 C139 C139 C139	1.7726345	Q8IUR0 Q8IUR0 Q8IUR0 Q8IUR0 Q8IUR0 Q8IUR0	4
VILALGDYMGATCHAC*IGGTN VR	C136 C135 C135 C136 C135 C135 C136 C135 C135	1.77247625	Q14240 E7EQG2 Q14240 Q14240 E7EQG2 Q14240 Q14240 E7EQG2 Q14240	4
NIC*FTVWDVGGQDR	C62 C62 C62 C62 C35 C35 C62 C62 C62 C62 C62 C62 C35 C35 C62 C62	1.771793333	P18085 P18085 P18085 P18085 C9JAK5 C9JAK5 P18085 P18085 P18085 P18085 C9JPM4 C9JPM4 C9JAK5 C9JAK5 P18085 P18085	4
LAESLARPC*APGAPAEAR	C103	1.771646667	P26022	2
FEETGQELAEELLEEEKLSC*VP VLIFANK	C118 C118 C118	1.77064	P36405 P36405 P36405	4
EDLNC*QEEEDPMNKLK	C139 C139 C139 C139	1.770263333	K7ENA8 O75821 K7ENA8 O75821	2
EMDSCPVVGEFPC*QNDINLS QAPALPQPEVIQNMTEFK	C974	1.77001	P14735	2
NADMSEEMQQDSVEC*ATQA LEK	C24 C24	1.769903333	P63167 P63167	2
NMITGTAPLDGC*ILVVAANDG PMPQTR	C147 C147 C147	1.768963333	P49411 P49411 P49411	4
GSSC*FECTHYQSFLYR	C238 C188 C238 C188 C238 C188 C238 C188 C238 C188	1.768712	P21964 P21964 P21964 P21964 P21964 P21964 P21964 P21964 P21964 P21964	4
SLHDALC*VVKR	C397 C397 C397	1.767991	P17987 P17987 P17987	4
FQLTDC*QIYEVLSVIR	C143 C179 C143 C179 C143 C179 C143 C179 C143 C179 C143 C179 C143 C179 C143 C179 C143 C179	1.767666429	Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555	4
ADHQPLTEASYVNLPTIALC*N TDSPLR	C148 C153 C148 C148 C153 C148 C148 C153 C148	1.767133125	C9J9K3 A0A0C4DG17 P08865 C9J9K3 A0A0C4DG17 P08865 C9J9K3 A0A0C4DG17 P08865	4
SGQGAFGNMC*R	C96 C96	1.7669975	P36578 P36578	3
C*SDNTEVEVSNLENKQPVES TSAK	C71 C71 C71 C71 C71	1.76645	Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6	3
FIC*EQDHNFLR	C658 C614	1.766262	Q92598 Q92598	3
NVQLLSQFVSPFTGC*YGR	C90 C90 C90 C90	1.763315556	Q9Y3D5 Q9Y3D5 Q9Y3D5 Q9Y3D5	4
ERPTSLNNNC*TTSEDSLVLY NR	C744 C744	1.7626525	P07814 P07814	2
GLC*GAIHSSIAK	C103 C103 C103 C103	1.7622875	P36542 P36542 P36542 P36542	2
FPDFLDC*LPGTNVDLGTLESE DLIPLFNDVESALNK	C363	1.761573333	Q9GZV5	2
TATC*HSSSPPIDAASAEPYG FR	C1814 C1814	1.76023	P46821 P46821	2
SAC*DTVDTWLDDTAK	C4216 C4216	1.759788	Q14204 Q14204	2
ATGHSGGGC*ISQGR	C24 C24	1.75945	Q9HA64 Q9HA64	2
SC*PSFSASSEGTR	C9 C9 C9 C9 C9 C9	1.758686667	D6RFG8 P27707 D6RFG8 P27707 D6RFG8 P27707	3

FSNQETC*VEIGESVR	C41 C41	1.75808	P60891 P60891	2
EC*SNPSNLELYTQAILDMTY FEENKLVDDEDFPEDSSSQK	C57	1.755273333	A6NDU8	2
YMAC*CLLYR	C315 C315 C315 C315 C315 C315 C315 C315 C322 C282 C322 C282 C315 C315 C315 C315 C322 C282 C315 C315 C315 C315 C322 C282	1.755028333	Q9BQE3 Q9BQE3 P68363 P68363 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2 Q9BQE3 P68363 Q71U36 P68366 A6NHL2 A6NHL2 Q9BQE3 P68363 Q71U36 P68366 A6NHL2 A6NHL2	4
VQPQWSPAGTQPC*R	C27 C40 C110 C110	1.754518333	P49589 B4DKY1 P49589 P49589	3
AGIDGESIGNC*PFSQR	C191 C32 C32	1.753936	Q9NZA1 Q9NZA1 Q9NZA1	4
EESSSDEDDRGEADFGAM GC*VDIMPLDVALENLNLK	C352	1.753313333	Q9P0J7	2
ALGQLFHIACTCHQCAQLQ GQQFYSLEGAPYC*EGCYTDT LEK	C276 C123 C433 C401 C123 C276 C123 C433 C401	1.751932	Q15942 C9JJK5 Q15942 H0Y2Y8 C9JJK5 Q15942 C9JJK5 Q15942 H0Y2Y8	3
TC*VPADINKEEEFVEEFNR	C12 C12 C12 C12 C12 C12	1.751646364	P98170 B1AKU2 P98170 B1AKU2 P98170 B1AKU2	4
LMSSLPNFC*GIFNHLER	C35 C35 C35 C35 C21 C35 C35 C35 C35 C35 C35 C35 C35 C35 C35 C21 C35 C35 C35 C35 C35 C35 C35 C35	1.748966875	Q96PU8 Q96PU8 Q96PU8 Q96PU8 H0YFB7 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 H0YFB7 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8	4
RFSFCC*SPEPEAEAAAGP GPCER	C27 C27	1.748334545	E7EMC7 Q13501	4
HGEVC*PAGWKPGSETIIPDP AGK	C245 C245 C245	1.7480225	Q13162 Q13162 Q13162	4
TC*ETGEPMEAESGDTSSSEGP AQVYLPGR	C11	1.74800375	Q9BQ67	3
LGTLAPFC*CPWEQLTQDWES R	C705 C705 C705 C705	1.747635	Q99575 Q99575 Q99575 Q99575	4
AVAILC*NHQR	C630 C630	1.746815	P11387 P11387	2
LMSNLDNDRDNEVDFQEYCV FLSC*IAMMCNEFFEGFPDK	C81	1.74202	P26447	4
DSAQC*AAIAER	C376 C376	1.741293333	Q96RS6 Q96RS6	2
APPTAC*YAGAAPAPSQVK	C225 C248 C50 C225 C248 C50	1.740254	P17676 P17676 P17676 P17676 P17676 P17676	3
LTSSVSC*ALDEAAAALTR	C210 C95 C97 C210 C210 C210 C210 C210 C210 C95 C181 C210 C181 C210 C210 C181 C210 C181 C181 C167 C97 C170 C181 C210 C210 C95 C181 C97 C181 C210 C181 C210 C181 C210	1.740071667	O75179 H0YM23 O75179 O75179 O75179 O75179 O75179 O75179 O75179 H0YM23 Q8IWZ3 O75179 Q8IWZ3 O75179 O75179 E9PDP5 O75179 Q8IWZ3 Q8IWZ3 D6RHC4 O75179 Q8IWZ3 Q8IWZ3 O75179 O75179 H0YM23 Q8IWZ3 O75179 Q8IWZ3 O75179 E9PDP5 O75179 Q8IWZ3 O75179	4
NMMAAC*DPR	C285 C303 C303 C303 C303 C303 C650 C303 C303 C269 C266 C303 C303 C303 C285 C285	1.739837391	Q5JP53 P68371 Q9BUF5 P04350 Q9BVA1 Q13885 A0A0B4J269 Q13509 A6NNZ2 Q5SQY0	4

	C303 C303 C303 C303 C650 C303 C650 C303 C303 C303 C303 C303 C303 C303 C303 C285 C303 C303 C650 C303 C231 C303 C303 C269 C266 C303		A0A075B736 Q3ZCM7 P68371 P68371 Q5JP53 Q5JP53 Q9BUF5 Q9BUF5 P04350 P04350 A0A0B4J269 Q13509 A0A0B4J269 Q13509 Q9BVA1 Q9BVA1 Q13885 Q13885 Q3ZCM7 Q3ZCM7 P68371 Q5JP53 Q9BUF5 P04350 A0A0B4J269 Q13509 Q13509 Q13885 A6NNZ2 Q5SQY0 A0A075B736 Q3ZCM7	
LTGIKHELQANC*YEEVK	C122 C139 C177 C139 C122 C139 C177 C139	1.739015	G3V1A4 P23528 E9PK25 E9PP50 G3V1A4 P23528 E9PK25 E9PP50	3
LFTIHQIDAC*TNNLPK	C706 C706 C706 C706	1.737455	Q9HAU4 Q9HAU4 Q9HAU4 Q9HAU4	4
VDFENFDC*VEADVEGK	C101 C101 C101	1.73585	O14929 O14929 O14929	3
LICC*DILDVLDKHLIPAANTGE SK	C76 C98 C76 C98	1.735827857	P62258 P62258 P62258 P62258	4
C*LHNFLTDGVP AEGAFTEDF QGLR	C316 C268 C316 C268 C316 C268 C316 C268 C316 C268	1.7355056	G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764	4
LC*DFGVSGQLIDSMANSFVG TR	C114 C211 C181 C207 C207 C114 C211	1.735274615	G5E9C7 P36507 Q02750 Q02750 Q02750 G5E9C7 P36507	4
AGSNMLLIGVHGPTTPC*EEV SMK	C2491 C2587 C2515 C2532 C2545 C2556	1.735166667	O75369 O75369 O75369 O75369 O75369 O75369	2
TNHIGHTGYLNTVTVSPDGSL C*ASGGKDGQAMLWDLNEGK	C207	1.734855	P63244	4
MRECISIHVGQAGVQIGNAC* WELCYCLEHGIQPDGQMPSDK	C20 C20 C20 C20	1.732765238	Q9BQE3 P68363 Q71U36 Q13748	4
GENLEAVVC*EEPQVK	C236 C246 C187 C163 C164	1.7325575	Q8TCZ2 Q8TCZ2 Q8TCZ2 Q8TCZ2 Q8TCZ2	4
NTGDADQWC*PLETELTD AEM EKK	C359 C350 C341	1.73242	G5E975 Q12824 Q12824	2
IGLIQFC*LSAPK	C252 C222 C252 C222 C252 C222	1.732176667	P50991 P50991 P50991 P50991 P50991 P50991	3
ELETVC*NDVLSLLDK	C97 C97 C84	1.732065	Q04917 Q04917 A2IDB2	2
LVIVGDGAC*GK	C16 C16	1.731561818	P08134 Q5JR08 E9PQH6 P61586 P08134 Q5JR08 E9PQH6 C9JNR4 P61586 P08134 Q5JR08 E9PQH6 C9JNR4 P61586 P08134 Q5JR05 Q5JR07 Q5JR08 E9PQH6 P08134 Q5JR05 Q5JR07 Q5JR08 E9PQH6 C9JNR4 P61586 C9JNR4 P61586	4
KIDQSEFEGFEYINPLLSAEE C*V	C595 C595	1.731422	P41743 P41743	4
GSLLLDGAGAGGAGGSRPC* SNR	C158	1.7313825	Q96IF1	3
VDEFPLC*GHMVSDEYEQLSS EAL EAAR	C49 C49 C49 C49 C49 C49 C49	1.73122835	P27635 P27635 P27635 P27635	4
HAC*VPVDFEEVHVSSNADEE DIR	C81 C23 C58 C81 C81 C81 C23 C58 C81 C81	1.729765	P51553 G5E9Q7 E9PF84 E7EQB8 P51553 P51553 G5E9Q7 E9PF84 E7EQB8 P51553	2
FRISLGLPVGAVINC*ADNTGA K	C28 C32 C28 C28 C28 C32 C28	1.729547436	J3KT29 C9JD32 P62829 J3KT29 B9ZVP7 C9JD32 P62829	4

MREIVHIQAGQC*GNQIGTK	C12 C12 C12	1.729416667	Q9BUF5 Q9BUF5 Q9BUF5	4
VSMILQSPAFC*EELESMIQEQ FKK	C68 C68	1.729220667	P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 A0A0A0MSR2 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 A0A0A0MSR2 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611	4
SVVC*QESDLPDELLYGR	C187 C187 C187 C187	1.724338333	Q9NS86 Q9NS86 Q9NS86 Q9NS86	4
GPQLFHMDPSGTFVQC*DAR	C107 C165	1.723795	P28066 P28066	2
SC*TDESELLHPELLSQEFLLLT LEQK	C48 C10 C10 C48 C10 C10 C48 C10 C10 C48 C10 C10 C48 C10 C10 C48 C10 C10	1.723477778	Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5	4
IALC*LPNICTQPIPLK	C495 C603 C521 C495 C603 C154 C102 C521	1.723476667	Q86W56 Q86W56 Q86W56 Q86W56 Q86W56 Q86W56 Q86W56 Q86W56	2
IDTHNIIVNQLVFPDPEKPC*K	C272 C289	1.721961667	A0A087 Q43681	4
LLQC*DPSSASQF	C185 C185 C185	1.721618	P37235 P37235 P37235	3
GDSEPTPGC*SGLGPGGVR	C13 C13 C13 C13 C12 C13 C13 C13 C13 C12 C13 C13 C13 C13 C12	1.719995455	F2Z3M0 E9PPN1 Q8WW01 Q8WW01 H0YCV5 F2Z3M0 E9PPN1 Q8WW01 Q8WW01 H0YCV5 F2Z3M0 E9PPN1 Q8WW01 Q8WW01 H0YCV5	4
C*PGESLINPGFK	C180	1.719987778	Q9BUH6	4
YLC*DEQKELQALYALQALVVT LEQPPNLLR	C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429 C1321 C1352 C1516 C1523 C1476 C1430 C1477 C1320 C1517 C1429 C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429	1.718634286	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EJU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EJU4 Q04637 Q04637 Q04637 E9PGM1 E7EJU4 Q04637 Q04637 Q04637	4
TVDSQGPTPVC*TPTFLER	C46 C237 C132 C237 C237 C237	1.7185625	H7BZL0 Q9BYG3 C9J808 Q9BYG3 Q9BYG3 Q9BYG3	4
IIDLEEADEIEDIQEITVLSQ C*DSPYVTK	C89 C77 C77 C89 C77 C77 C89 C77 C77	1.713761667	Q9Y6E0 B4DR80 Q9Y6E0 Q9Y6E0 B4DR80 Q9Y6E0 Q9Y6E0 B4DR80 Q9Y6E0	3
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622	1.713682	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EJU4 Q04637 Q04637 Q04637	4

	C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575		Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637	
STMSLPPGLLGNWGE GAPA WVLLDECGLELGEDTPHVC*W EPQAQGR	C505 C457 C505 C457	1.713467143	G3V1A6 P57764 G3V1A6 P57764	3
C*CSGAIIVLTK	C423 C408 C423 C408 C349 C423	1.713412857	P14618 P14618 P14618 P14618 B4DNK4 P14618	3
C*SGIGDNPGSETAAPR	C2675	1.71335	P50851	2
LIAAIC*AGPTALLAHEIGFGSK	C106 C86 C106 C67 C86 C106 C86	1.711386216	Q99497 K7ELW0 Q99497 K7EN27 K7ELW0 Q99497 K7ELW0	4
LHDAIVEVVC*LLR	C470 C483 C483 C483 C470 C470 C470 C470 C267	1.711335	O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429 O00429	4
NPVINIASMLGSTDIPDWCVVE AGFPFSSDC*LPDLSVWAEML DKSPIR	C641	1.710474	P13798	2
RPGTSPALLQGTAEEDHVDLS LSC*TLVPR	C117 C117	1.71021	P38936 P38936	2
TGQATVASGIPAGWMGLDC* GPESKK	C288 C316 C288 C316	1.708712	P00558 P00558 P00558 P00558	2
NLSFFLTPPC*AR	C492 C494 C492 C492 C494 C492	1.705844444	P42224 J3KPM9 P42224 P42224 J3KPM9 P42224	4
VLGLGLGC*LR	C88 C88 C75 C88 C88 C88 C88 C75 C88 C88 C88 C88 C75 C88 C88	1.705082857	Q9BRJ7 K7ENA3 K7EIN2 Q9BRJ7 W4VSQ8 Q9BRJ7 K7ENA3 K7EIN2 Q9BRJ7 W4VSQ8 Q9BRJ7 K7ENA3 K7EIN2 Q9BRJ7 W4VSQ8	4
TTSFAESC*KPVQQPSAFGSM K	C14 C14 C14 C14	1.70462	P49841 P49841 P49841 P49841	2
TQSPC*FGDDPAK	C256 C324 C344 C256 C324 C344	1.704615	Q12765 Q12765 Q12765 Q12765 Q12765 Q12765	2
LC*PNSTGAEIR	C377 C240 C377 C240	1.703132	P35998 P35998 P35998 P35998	2
STC*SLTPALAAHFSENLIK	C450 C508 C553 C401 C450 C508 C553 C401 C450 C508 C553 C401 C508 C553 C450 C508 C553 C401	1.703014167	Q9BTA9 Q9BTA9 Q9BTA9 A0A0A0MRT2 Q9BTA9 Q9BTA9 Q9BTA9 A0A0A0MRT2 Q9BTA9 Q9BTA9 Q9BTA9 A0A0A0MRT2 Q9BTA9 Q9BTA9 Q9BTA9 Q9BTA9 Q9BTA9 A0A0A0MRT2	4
KC*GAETQHEGLELR	C128 C128 C128 C128	1.70105	Q9HCU5 B5MC98 Q9HCU5 B5MC98	2
VIGIEC*SSISDYAVK	C101 C91 C101 C109 C95 C73 C119 C91 C101 C109 C95 C73 C119	1.700170833	Q99873 Q99873 Q99873 Q99873 Q99873 E9PKG1 H7C211 Q99873 Q99873 Q99873 Q99873 E9PKG1 H7C211	4

C*IPEIDDSEFCIR	C168 C137 C168	1.699533333	Q969U7 Q969U7 Q969U7	2
VIGSGC*NLDSAR	C163 C192 C163 C192 C164 C164 C163 C192 C164 C164 C163 C192	1.697791111	P00338 P00338 P00338 P00338 P07195 P07195 P00338 P00338 P07195 P07195 P00338 P00338	4
AQILVLTYPILIGNYGIPPEMD EFGLC*K	C73 C73 C73 C73	1.69777	P27708 F8VPD4 P27708 F8VPD4	4
LLPVEPC*DLTEGFDPSVPPR	C34 C34 C29 C26 C34 C34 C34 C34 C34 C34	1.697766	O14893 O14893 H0YEL0 H0YDP6 O14893 O14893 G5EA29 O14893 O14893 O14893	3
NIC*FTVWDVGGQDK	C62 C62 C62	1.696961667	P84085 P84085 P84085	4
NQISPFISQMC*NMLGLGDMN ADQLASK	C188 C205	1.69675	A0A087 O43681	2
GPVLAEDFLDIMGQPINPQC* R	C162 C162 C162	1.695245185	P21281 P21281 P21281	4
EEILLAC*EGGTGTCVR	C149 C124	1.6945	Q9GZN8 Q9GZN8	2
QMFEPVSC*TFTYLLGDR	C34 C34 C34 C34 C34 C34 C34 C34 C34 C34 C34 C34	1.69436	M0QY80 O95571 M0QY80 O95571 M0QY80 O95571 M0QY80 O95571	4
TFVDFFSQC*LHEEYR	C215 C215 C215	1.693983333	Q53GQ0 Q53GQ0 Q53GQ0	3
LAPILC*DGATFVDLVPGFR SNELGDVGVHC*VLQGLQTPS CK	C568 C568 C568 C568 C568 C568	1.693771111	O43264 O43264 O43264 O43264 O43264 O43264	4
NVLLSAGC*DNVLIWNVGTA EELYR	C153 C153 C153 C153 C153 C153 C153 C153 C153	1.692296667	Q9BR76 F5H390 A0A087WW53 Q9BR76 F5H390 A0A087WW53 Q9BR76 F5H390 A0A087WW53	2
NLSYGDNSDPALEASSLPPPD PWLETSSSPAEPAPQGAC*R	C261 C106 C800 C797 C93 C261 C106 C800 C797 C93	1.691465	Q9Y2H0 F8WF49 Q9Y2H0 Q9Y2H0 A0A0B4J2C2 Q9Y2H0 F8WF49 Q9Y2H0 Q9Y2H0 A0A0B4J2C2	2
AWSTGDC*DNNGDEWEQEIR	C54 C54 C54 C54 C54 C54 C54	1.690996471	Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8	4
MYGISLC*QAILDETKGDYK	C324 C324 C324 C324 C324	1.690248039	P04083 P04083 P04083 P04083 P04083	4
LWQADC*SSRPLLAGYEDGS VVLWDVSEQK	C175 C175 C175 C175 C175 C175	1.689525714	Q9BYB4 Q9BYB4 Q9BYB4 Q9BYB4 Q9BYB4 Q9BYB4	2
TCDGVQC*AFEELVEK	C160 C136 C189 C115	1.687732	Q9NP72 A0A087 Q9NP72 Q5W0J0	4
INDALSC*EYECR	C216 C216 C216 C216 C216 C216	1.687563333	Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0	3
TTEEQVQASTPC*PR	C108 C108	1.687246	Q14137 Q14137	2
SC*PETLTHAVGMSESPIGPK HLEEHVDVLMTSNIVQC*LAA MLDTVVK	C648 C888 C648 C888 C648 C888	1.68693	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	3
DPCAAPNEGFC*SAGVQTEAG VADLTWVGER	C299 C299 C299	1.685867143	O00487 O00487 O00487	4
KIHESAGLPFFEIFVDAPLNIC* ESR	C155 C155 C155 C155 C155 C155 C155 C155	1.685272093	O95340 O95340 O95340 O95340 O95340 O95340 O95340 O95340	4
FMC*AQLPNPVLDSISIIDTPGI LSGEK	C152 C152 C138 C152 C152 C138 C152 C152 C138	1.684356923	C9JC03 A0A024R571 Q9H4M9 C9JC03 A0A024R571 Q9H4M9 C9JC03 A0A024R571 Q9H4M9	4

LLDRDAC*DTVR	C204 C247 C204 C247	1.68381	Q9NZL4 Q9NZL4 Q9NZL4 Q9NZL4	2
HEC*QANGPEDLNR	C118 C135	1.68299	P60981 P60981	2
C*IADVVSFLITVMDK	C128 C111 C128 C128 C128 C111 C128 C128	1.682892	Q9UK41 E9PM90 Q9UK41 E9PQR7 Q9UK41 E9PM90 Q9UK41 E9PQR7	3
VVETSALLC*TAQHLLAAVQSS GAPATASGPQVDNTGGPEAW DSPLRR	C150	1.682883333	Q9H6W3	2
FFACAPNYSYAALCEC*LR	C513 C513	1.682796667	Q96RS6 Q96RS6	2
VC*FVTSMMTGR	C119 C119 C195 C153 C119 C119 C195 C153	1.681338333	A0A087 Q86TG7 A0A087 A0A087WUL4 A0A087 Q86TG7 A0A087 A0A087WUL4	3
VVLPC*SVQEYQVGLYSVAE ASK	C15 C13 C13 C13	1.681233333	P48739 P48739 P48739 A0A0A0MSW4	3
VEQLFQVMNGILAQDSAC*SQ R	C3781 C3781 C3781	1.680811667	P78527 P78527 P78527	4
THEAEIVEGENHTYC*IR	C2199 C2191 C2172 C2199 C2191 C2172 C2199 C2191 C2172 C2199 C2191 C2172 C2199 C2191 C2172	1.680015	P21333 P21333 Q60FE5 P21333 P21333 Q60FE5 P21333 P21333 Q60FE5 P21333 P21333 Q60FE5 P21333 P21333 Q60FE5	3
FQSAAGALQEASEAYLVGLFE DTNLC*AIHAK	C111 C111 C111 C111 C111 C111	1.678499286	P84243 K7EK07 P84243 K7EK07 P84243 K7EK07	4
KAC*GDSTLTQITAGLDPVGR	C25 C25 C25 C25 C25 C25	1.67848875	P62879 P62879 C9JIS1 P62879 P62879	4
EYTAC*ELMNIYK	C96 C195	1.677614	Q9NSD9 Q9NSD9	2
MLSC*AGADR	C105 C105	1.67656	P27635 Q96L21	2
VQGGVPAGSDEYEDEC*PHLI ALSSLNR	C449 C449	1.675295	Q9BVS4 Q9BVS4	2
NLQTCMEVLEALYDGS LGDC* K	C817 C817 C816 C817 C816	1.67431	A0A0B4J1W3 A0A0B4J1W3	3
SC*TPSPDQISHR	C272 C272 C272 C272 C272 C272	1.673504	Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4	3
NIHVC*LGGLFVPEAYITATR	C4510	1.673194	Q14204	3
YAC*GLWGLSPASR	C26 C175 C457 C26 C457 C26 C175	1.672572	H7C0N4 H7C561 Q15637 H7C0N4 Q15637 H7C0N4 H7C561	4
LLSALC*PEEPPVHSSAQIVSK	C334 C334 C334 C334 C334 C334 C334 C334 C334 C334 C334 C334	1.672031667	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	4
C*KHFELGGDK	C88 C88 C88 C88 C124 C88 C7 C88 C88 C88 C124	1.6713775	H7BZ11 Q969Q0 H0Y5B4 P83881 J3KQN4 H7BZ11 R4GN19 Q969Q0 H0Y5B4 P83881 J3KQN4	3
TSVPC*AGATAFPADSDR	C189 C115 C26 C189 C115 C138 C277 C115 C189	1.67135	Q9Y4P1 Q9Y4P1 H7C2A6 Q9Y4P1 Q9Y4P1 C9JIK8 Q9Y4P1 C9J3C0 Q9Y4P1	2
DTEGGAAEINC*NGVIEVINYT QNSNNETLR	C340 C527 C356 C372 C527 C340 C527 C356 C372 C527	1.668475	Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363	2
VGSFGSSPPGLSSTYTGGLG NEIASGNNGAAAGDDEDGQN LWSC*ILSEVSTR	C51	1.668464	Q9Y6G9	4
GANDFMC*DEMERE	C385	1.66803	P17987	2
VGVGTC*GIADKPMYQDTS K	C214	1.667974	O75940	3

TVPFLPLLGGC*IDDTILSR	C180 C190 C180 C190 C180 C190 C180 C190	1.667947778	Q7Z7H8 Q7Z7H8 Q7Z7H8 Q7Z7H8 Q7Z7H8 Q7Z7H8 Q7Z7H8 Q7Z7H8	4
GELSGHFEDLLLAIVNC*VR	C207 C246 C207 C246 C207 C246	1.665674286	D6RA82 P12429 D6RA82 P12429 D6RA82 P12429	4
C*FQEMLEEEEEHEWFIPAR	C60 C60	1.6655575	D6RA77 Q9BPZ3	2
MPC*ESSPPESADTPTSTR	C1372 C1373	1.66424	A0A087WV66 P46013	2
YSTGSDSASFPHHTPSMC*LN PDLEGPPLAAYTIQQQYAIQP DLTK	C217 C213 C213 C217	1.664122857	Q15366 Q15366 Q15366 Q15366	2
RLDEC*EEAFQGTK	C103 C92 C31 C36 C92 C103 C92 C31 C36 C92 C103 C92 C31 C36 C31 C31 C31 C92 C103 C92 C31 C36 C92 C103 C92 C31 C36 C92	1.663362941	P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 K7EMD0 K7EKR3 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289	4
QPAIMPGQSYGLEDGSC*SYK DFSESR	C413 C472 C413 C472 C339 C413 C89 C472	1.663262	P14866 P14866 P14866 M0QYT0 P14866	3
VTDDLVC*LVIYK	C48 C48 C48	1.66226	P49458 P49458 P49458	3
LQMEGEGGGETPEQPGLNGA AAAAAGAPDEAAEALGSADC* ELSAK	C53	1.66221	Q96C19	2
C*RPDQLTGLSLLPLSEK	C3336 C3226 C3203 C3222 C3185 C3167 C3199 C3177 C3199 C3222	1.66177	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	2
EENVGLHQTLTDQTLNELNC*I	C283 C109 C247 C283 C109 C247 C283 C109 C247 C283 C109 C247	1.659450769	P67936 K7EPB9 P67936 P67936 K7EPB9 P67936 P67936 K7EPB9 P67936 P67936 K7EPB9 P67936	4
NYLEPGKEC*VQPATK	C888 C997 C970	1.658946667	H7C5W9 P16615 P16615	2
FSPLCQWLYLEAADIVESL GK PEC*EEFLPR	C433 C433 C433 C433	1.65888875	A0AVT1 A0AVT1 A0AVT1 A0AVT1	4
CPALYWLSGLTC*TEQNFISK	C27 C56 C27 C56 C27 C56	1.658827143	P10768 P10768 P10768	3
DVIELTDDSFDKNVLDSEDEVV MVEFYAPWCGHC*K	C193 C241 C245 C198 C190	1.658333333	Q15084 Q15084 Q15084 Q15084 Q15084	3
ENC*PVPGKPGEAVAAR	C206 C239 C206 C239	1.657605	P04183 K7ERV3 P04183 K7ERV3	2
DLC*FSPGLMEASHVVNDVNE AVQLVFR	C192 C392 C362 C192 C392 C362 C192 C392 C362	1.656148	A8MYZ9 A8MYZ9 A8MYZ9	3
ISPVDVNSRPSSC*LTNLLNG R	C53 C248 C349 C53 C248 C349 C53 C248 C349 C53 C248 C349	1.656051429	H0YH12 Q9NVM9 Q9NVM9 H0YH12 Q9NVM9 Q9NVM9 H0YH12 Q9NVM9 Q9NVM9 H0YH12 Q9NVM9 Q9NVM9	4
NAIQLLASFLANNPFSC*K	C439 C439 C439 C439	1.655637143	Q15021 Q15021 Q15021 Q15021	4
VVSGMVNC*NDDQGVLLGR	C230 C230 C230 C230 C230	1.655232917	P21980 P21980 P21980 P21980 P21980	4
KGAGNPQASTLALQSNITQC*L LGQPWPLNEAQVQASVVK	C1222 C1299 C1221 C1260 C1261 C1260 C1334 C1298 C1298	1.654513333	Q13428 Q13428 Q13428 J3KQ96 Q13428 Q13428 Q13428 Q13428 E7ETY2	2
GNLYSFGC*PEYQQLGHNSD GK	C280 C280	1.654456667	Q9P258 Q9P258	2
CCLTYC*FNKPEDK	C149 C149 C149 C149	1.65431	P62979 P62979 P62979 P62979	3
LC*SGPGIVGNLVDPSAR	C245 C245 C245 C245 C245 C245 C245 C245	1.652878824	Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6	4

			Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6	
VSDTVVEPYNATLSIHQLVENT DETYC*IDNEALYDICFR	C548 C201 C548 C201 C548 C201 C548 C201 C129 C548 C201 C129 C548 C201 C129	1.65272982	A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509 Q13509	4
HGFC*GIPITDGR	C140 C140 C140 C140	1.651864348	P12268 P12268 P12268 P12268	4
EC*ISIHVGQAGVQIGNACWEL YCLEHGIQPDGQMPSDK	C4 C4 C4 C4 C4 C4 C4	1.651733333	Q9BQE3 P68363 Q71U36 Q13748 Q9BQE3 P68363 Q71U36	3
ECISIHVGQAGVQIGNACWEL YC*LEHGIQPDGQMPSDK	C25 C25 C25 C25 C25 C25 C25	1.651278974	Q9BQE3 P68363 Q71U36 Q13748 Q9BQE3 P68363 Q71U36	4
VNLQMVDYDPLC*R	C462 C493 C533 C462 C493 C533	1.650498889	Q9Y285 Q9Y285 K7ER00 Q9Y285 Q9Y285 K7ER00	4
LGTDESC*FNMILATR	C363 C341	1.650475	P20073 P20073	4
SFGVQPC*VSTVLVEPAR	C592 C592	1.64594	Q8TB52 Q8TB52	2
ESQIFPPTTGAELMC*QDLE VPLLGR	C256 C245 C256 C245	1.645465	P53384 P53384 P53384 P53384	2
DQLQELC*IPQDLVGDLASVVF GSQRPLLDVAQQGAWLPH VADFR	C117 C63 C117 C117 C63 C117	1.6453425	Q9GZQ3 H0YEQ6 E9PJE4 Q9GZQ3 H0YEQ6 E9PJE4	3
SDPDAC*PTMPLLAMLLR	C214 C214 C199 C210 C199 C210	1.64499	I3L4A4 I3L399 I3L2C7 P57678 I3L2C7 P57678	3
IIC*SAGLSLLAEER	C107 C195 C107 C195 C107 C195 C107 C195 C107 C195 C107 C195	1.64496	S4R338 Q9BV86 S4R338 Q9BV86 S4R338 Q9BV86 S4R338 Q9BV86 S4R338 Q9BV86 S4R338 Q9BV86	4
LQDSC*SGQTLWELLSHFPQI R	C106 C109 C109 C109 C109 C106 C109 C109 C109 C109	1.642700769	J3QL04 Q9BZE9 Q9BZE9 Q9BZE9 Q9BZE9 J3QL04 Q9BZE9 Q9BZE9 Q9BZE9 Q9BZE9	4
AKLTPGC*EAEAEATEAICFFVQ QFTDMEHNR	C2359 C2359 C2357 C2359	1.642567681	P49327 P49327 A0A0U1RQF0 P49327	4
QQYLC*QPLLDVLANIR	C552 C507 C578 C618 C552 C507 C578 C618 C552 C507 C578 C618	1.642285	G3V1P5 Q96RN5 Q96RN5 Q96RN5 G3V1P5 Q96RN5 Q96RN5 Q96RN5 G3V1P5 Q96RN5 Q96RN5 Q96RN5	4
ISPVIYHFVFTNESNETDYVPL PIIDSVEC*NK	C342 C384 C254 C342 C384 C254 C342 C384 C254 C342 C384 C254	1.64226	Q6ZMK1 E9PJD7 Q6ZMK1 Q6ZMK1 E9PJD7 Q6ZMK1 Q6ZMK1 E9PJD7 Q6ZMK1 Q6ZMK1 E9PJD7 Q6ZMK1	4
EQPQLTSTC*HIAISNSENLLG K	C772 C773 C772 C773	1.641915	A0A087WV66 P46013 A0A087WV66 P46013	2
EGIC*ALGGTSELSSEGTQHS YSEEEKYAFVNWINK	C104 C104 C104 C104 C104 C104	1.641871667	P13797 P13797 P13797 P13797 P13797 P13797	4
LVAFC*PFASSQVALENANAV SEGVVHEDLR	C52 C52 C52 C52 C52	1.641368333	O00567 O00567 O00567 O00567 O00567	4
LDINLLDNVNC*LYHGEGAQ QR	C34 C34 C34 C34 C34	1.641365455	O14980 O14980 O14980 O14980 O14980	4
SEEAPAGC*GAEGGGPGSGP FADLAPGAVHMR	C16 C16	1.64082	Q9BUL9 Q9BUL9	2
LQHINPLLPAC*LNKEESK	C325 C325 C325 C325	1.636565	Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3	2

			A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPF9 A0A096LNN8 A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPF9 A0A096LNN8 A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPF9 A0A096LNN8 A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPF9 A0A096LNN8	
DC*GGAAQLAGPAAEADPLGR	C8 C8	1.635723636		4
VC*ISILHAPGDDPMGYESSAE R	C89 C61	1.6349425	P60604 P60604	2
VAC*AEEWQESR	C87 C87 C87 C87 C87 C87 C87 C87	1.634075333	O75663 O75663 O75663 O75663 O75663 O75663 O75663 O75663	4
C*CTPQLTR	C322 C322 C322 C322	1.63333	O00622 A0A087WVM3 O00622 A0A087WVM3	2
HGGPQYC*R	C59 C59	1.63311	O14684 O14684	2
TAVC*DIPPR	C336 C354 C354 C354 C354 C354 C320 C317 C354	1.632208571	Q5JP53 P68371 P04350 Q9BVA1 Q13885 A6NNZ2 Q5SQY0 A0A075B736 Q3ZCM7	3
AVLC*PPPVKK	C178 C178	1.629926667	P60763 P63000	3
NEDEEGYVPTSIVEVC*LDK	C604 C543 C556 C609 C543 C604 C580	1.6298925	Q96RU3 Q96RU3 H0Y7W6 Q96RU3 B7ZL14 Q96RU3 Q96RU3	3
LPEEEAEC*YFHSRPK	C156 C61	1.629635	Q9NVS9 Q9NVS9	2
YAYLNVGMVGSIDNDFC*GT DMTIGTDSALHR	C179 C179 C179 C179 C179 C179 C179 C179 C179	1.628299692	Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813	4
C*SEGSFLLTFFRPVTVPEM DQLDDEEGLPEK	C119 C208 C119 C208 C119 C208 C119 C208	1.62786375	Q15233 Q15233 Q15233 Q15233 Q15233 Q15233 Q15233 Q15233	4
VLVTQQFPC*QNPLPVNSGQA QR	C33 C33 C33 C33 C33 C33 C33	1.62724	O14965 A3KFJ0 O14965 A3KFJ0 O14965 Q5QPD4 O14965	4
QEPLGSDSEGVNC*LAYDEAI MAQQDR	C23 C23 C23 C23 C23 C23 C23 C23 C23 C23 C23 C23	1.627055455	Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1	4
LATGSDDNC*AAFFEGPPFK	C170 C170	1.626146667	O75083 O75083	2
DLPTSPVDLVINCLDC*PENVF LR	C413 C413 C413 C413	1.62575	Q96F86 Q96F86 Q96F86 Q96F86	4
AFC*GFEDPR	C4494 C4384 C4361 C4380 C4343 C4325 C4357 C4335 C4357	1.62571	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	2
LPITVLNGAPGFINLC*DALNA WQLVK	C241 C240	1.624430588	P31939 P31939	4
VTDGALVVVDCVSGVC*VQTE TVLR	C136 C136 C136	1.624339512	P13639 P13639 P13639	4
SVAWAPSGNLLATC*SR	C123 C123	1.62426	O76071 O76071	2
ETHSVDRLPSALTATAC*K	C109 C48 C633 C199 C109 C48 C633 C199	1.62413	H0Y641 A0A087 Q92615 H0Y4V9 H0Y641 A0A087 Q92615 H0Y4V9	2

GVSLPLGFTFSFPC*QQNSLD ESILLK	C606 C578 C606 C578 C606	1.62347	P52789 E9PB90 P52789 E9PB90 P52789	3
SCYDLSC*HAR	C471	1.622553333	P41250	2
DNQGILYEAAPTSTLTC*DSGP QK	C141 C191 C191 C141 C191 C191 C141 C141 C141 C191 C191 C141 C191 C191 C141 C141	1.621796667	M0R073 Q8IV63 M0QYG0 Q8IV63 M0QYA8 Q8IV63 M0R200 M0R073 Q8IV63 M0QYG0 Q8IV63 M0QYA8 Q8IV63 M0R200	2
HSMNPFC*EIAVEEAVR	C42 C133 C42 C133 C42 C133 C42 C133 C42	1.621549048	M0QY67 P38117 P38117 P38117 P38117 P38117 P38117 P38117 P38117	4
SC*NGPVLVGSPQGGVDIEEV AASNPELIFK	C162 C162 C54 C162 C162 C162 C54 C162 C162 C162 C162 C162 C162 C162 C162 C162	1.62002	Q96I99 Q96I99 HOY852 Q96I99 Q96I99 E9PDQ8 HOY852 Q96I99 Q96I99 E9PDQ8 Q96I99 Q96I99 E9PDQ8 Q96I99 Q96I99 E9PDQ8	4
VVTAGAIIPFLAPGQSLPDSL MQFGGATPWTPLSAC*GEPS GTR	C403 C403 C368 C403 C403 C403 C368 C403 C403 C403 C368 C403 C403 C403 C368 C403	1.61996	Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6	4
SSLQYSSPAPDGC*GDQTLGD LLLTPTTR	C646 C646 C646	1.6197425	P22102 P22102 P22102	3
DSGYGDIWC*PER	C176 C213 C228 C228 C137 C228 C228 C176 C176 C213 C228 C228 C137 C228 C228 C176 C213 C228 C137 C228 C176	1.619732857	E9PMP7 J3KP06 Q8WWI1 Q8WWI1 E9PMS6 Q8WWI1 Q8WWI1 F8WD26 E9PMP7 J3KP06 Q8WWI1 Q8WWI1 E9PMS6 Q8WWI1 Q8WWI1 F8WD26 J3KP06 Q8WWI1 E9PMS6 Q8WWI1 F8WD26	4
ADELLC*WEDSAGHWLYE	C158 C158	1.619286667	Q13232 Q13232	2
LQDAFSSIGQSC*HLDLPQIAV VGGQSAGK	C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27	1.618955455	P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570	4
TMPIGPDVSLLENLAAETC*FFS GADLR	C685 C190 C685 C190	1.61895	Q9BVQ7 HOYCA5 Q9BVQ7 HOYCA5	2
GLNPLNAYSDLAEFLETEC*YQ TPFNK	C343 C343 C343 C343 C343	1.618546429	O14879 O14879 O14879 O14879 O14879	4
NRTWYVQATC*ATQGTGLYE GLDWLSNELSK	C159 C132 C159	1.6183475	P18085 C9JAK5 P18085	2
VVLLGEFLHPC*EDDIVCK	C80 C80 C80 C80	1.617606667	Q9NY12 Q9NY12 Q9NY12 Q9NY12	2
IIAIANYVC*R	C581 C95 C525 C637 C581 C581 C95 C525 C637 C581	1.6171625	Q16666 A0A0A0MRB1 Q16666 Q16666 Q16666 Q16666 A0A0A0MRB1 Q16666 Q16666 Q16666	3
ALSGGLYPVSAVLCDDDIMLTI KPGEHGSTYGGNPLGC*R	C192 C330	1.6167575	P04181 P04181	3
TC*QVLEALNVLVNRPNIR	C109 C102 C102 C102	1.616242857	E9PQT7 O14933 O14933 O14933	3
IIQFQATPC*PK	C298 C300 C224 C313 C278 C299 C238 C298 C299 C300 C224 C313 C278 C299 C238 C298 C299 C300 C224 C313 C278 C299 C238 C298	1.6157325	Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 D6R927 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 D6R927 Q06330 Q06330 Q06330 Q06330	4

	C299 C300 C224 C313 C278 C299 C238		Q06330 Q06330 Q06330 D6R927 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330	
SSTETC*YSAIPK	C2436 C2532 C2460 C2477 C2490 C2501 C2436 C2532 C2460 C2477 C2490 C2501	1.615085	O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369	2
HFLIEC*TPK	C1001 C1241 C1001 C1241	1.614235	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	2
HEGVFIC*R	C99 C75 C14 C37 C99 C75 C14 C37 C99 C75 C14 C37	1.614125	P22087 M0R2Q4 M0R299 P22087 M0R2Q4 M0R299 P22087 M0R2Q4 M0R299	3
C*YEMASHLR	C92 C128	1.613925	K7EJ44 P07737	2
LIQVLIGDEPERGMENLLEVQV PEDVEQQLQLDC*R	C368 C368	1.613678235	Q9BTY7 Q9BTY7	4
C*ALGWDHQEK	C246 C246 C246 C246 C246 C246 C246 C246 C246	1.613254	Q14247 Q14247 Q14247 Q14247 Q14247 Q14247 Q14247 Q14247 Q14247	3
DDFAYC*LNCFCDLyak	C209 C319 C325 C209 C319 C325	1.61321	Q14192 J3KNW4 A0A0A0MSG2 Q14192 J3KNW4 A0A0A0MSG2	3
MAAISESNINLCGSHC*GVSIG EDGPSQMALEDLAMFR	C425 C417 C425 C417 C417 C425 C417	1.6125855	P29401 P29401 P29401 P29401 P29401 P29401 P29401	4
RPYGVLLIAGYDDMGPHIFQ TC*PSANYFDCR	C154 C148 C154 C148 C123 C154 C148 C154 C148 C123	1.61199	P25786 P25786 P25786 P25786 P25786 P25786 P25786 P25786	4
GTEAGQVGEPGIPTGEAGPS C*SSASDK	C241 C241 C241	1.61134	O15355 O15355 O15355	4
DMEPEMVCIDSC*GR	C184 C184 C184	1.6110125	Q9NQT5 Q9NQT5 Q9NQT5	3
TC*APQHGAPGPGPADASK	C2543 C2535 C2516	1.610132143	P21333 P21333 Q60FE5	2
SC*GPASQSTLGLK	C115 C254 C255 C240 C255 C241 C232 C256 C115 C254 C255 C240 C255 C241 C232 C256	1.60951	H0YMD2 H0YMD2	2
LSLEPLPC*YQLELDAVAEVK	C32 C32 C32 C32	1.60914	Q96RS6 Q96RS6 Q96RS6 Q96RS6	4
ASDHGWVC*DQR	C309 C309	1.608636667	Q9HC36 Q9HC36	2
QNSDFLC*QMDLLQEFYETTL EALKDAK	C130 C130	1.608397895	P61201 P61201	4
SDITKLEVDIVNAANSLLGG GGVDGC*IHR	C186	1.607800526	Q9BQ69	4
WGTIMEVENTHC*EFAYLR	C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 C513 C367 C512 C524 C531	1.607672727	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	4
AAQLEPITYMQLSAC*EQIR	C162	1.606863333	Q9HBH0	2
DVPLADPGLDNDVGVVEVGG GGC*LEER	C62 C62	1.60671	Q9NPA3 Q9NPA3	3
LVTSPC*CIVTSTYGWTANME R	C597 C719 C597 C719 C597 C719	1.606576667	P07900 P07900 P07900 P07900 P07900 P07900	2
YYALCGFGGVLS*GLTHTAV VPLDLVK	C75 C75 C75 C75 C75 C75 C75	1.605394444	Q00325 F8VVM2 Q00325 F8VVM2 Q00325 F8VVM2 Q00325	4
TPSVSAPLALSC*PR	C305 C305 C305 C305 C305 C305	1.60539	C9JRJ5 Q9UGP4 C9JRJ5 Q9UGP4 C9JRJ5 Q9UGP4	3
SC*YDLSCHAR	C466	1.603445	P41250	2

SC*SPSPVSPQVQPQAADTIS DSVAVPASLLGMR	C96	1.6027075	Q9NQW6	2
IKSGEEDFESLASQFSDC*SSA K	C113 C113 C40 C113 C40 C113 C40 C113	1.602628	Q13526 Q13526 K7EN45 Q13526 K7EN45 Q13526 K7EN45 Q13526	4
LNQVC*FDDDDGTSSPQDR	C422 C299 C422	1.6025875	H3BVG0 Q8N1F7 Q8N1F7	3
DNEVDFQEYC*VFLSCIAMMC NEFFEGFPDKQPR	C76	1.602166667	P26447	3
VTPTEEHVEGPLPSPVTNGTS PAQLNGGSAC*SSR	C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271	1.602146364	H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599 H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599 H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599	2
VC*ENIPIVLCGNK	C129 C130 C112 C108	1.602101053	B5MDF5 J3KQE5 P62826 F5H018	4
ILGLQVQQAHC*SIQDAQAA MR	C210 C382 C210	1.601983333	Q9GZR2 Q9GZR2 A0A0C4DG31	2
LISPNLGVVFFNAC*EAASR	C342 C316 C342 C316 C342 C316 C342 C316	1.6019	Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74	4
TPC*SSLLPLNAHAATSGK	C367 C375 C284 C397 C307 C298	1.601435	Q9NUQ6 Q9NUQ6 A0A0A0MSG5 Q9NUQ6 B8ZZZ7 Q9NUQ6	2
YMACC*LLYR	C316 C316 C316 C316 C316 C316 C316 C316 C323 C283 C323 C283 C316 C316 C316 C316 C323 C283 C316 C316 C316 C316 C316 C316 C316 C316 C323 C283 C323 C283 C316 C316 C301 C316 C323 C283	1.600853478	Q9BQE3 Q9BQE3 P68363 P68363 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2 Q9BQE3 P68363 Q71U36 P68366 A6NHL2 A6NHL2 Q9BQE3 Q9BQE3 P68363 P68363 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2 P68363 Q71U36 P68366 P68366 A6NHL2 A6NHL2	4
KC*DLISIPK	C473 C426 C420 C473 C426 C420 C473 C426 C420	1.5999125	Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4	3
NVASVC*LQIGYPTVASVPHSII NGYK	C226 C226	1.5988325	P05388 P05388	2
MVRPNQDGTLIASC*SNDQTV R	C252 C84 C252	1.598506	P43034 I3L3N5 P43034	2
VIFLQGGGC*GQFSAVPLNLIG LK	C80 C80 C80 C80 C80 C80 C80 C80 C80 C80	1.5980225	Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617	4
PC*SEETPAISPSKR	C3 C3 C3	1.596865	P33316 H0YNJ9 P33316	2
LSNVAPPC*ILR	C182 C182 C167 C182 C182 C167	1.595352	C9JB30 Q9UPY8 Q9UPY8 C9JB30 Q9UPY8 Q9UPY8	3
MNTLLANGEVPGLFEGDEYAT LMTQC*K	C3033 C3033	1.594483333	Q14204 Q14204	4
YFAGNLASGGAAGATSLC*FV YPLDFAR	C129 C129	1.59385	P05141 P12236	4
MQHLPDPQLIPEQITTDITPE C*LVSPR	C520 C370 C520 C520 C473	1.593446667	Q96AC1 A0A0U1RRM8 Q96AC1 Q96AC1 H0YJ34	2
VNC*SQFLGLCALPGCK	C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39	1.593338333	H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667 H7C0S3 G3V1K6 A0A087WWK3	4

	C39 C39 C39 C39 C39 C39 C39 C39 C39 C39		G3V2J7 F5H232 Q16667 H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667 H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667 H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667	
QVC*QLPGLFSYAQHIASIDGR	C49 C49	1.593025	E9PIE4 Q9Y6C9	2
AQHIVPC*TISQLLSATLVDEVF R	C49 C57 C137 C49 C57 C137 C49 C57 C137	1.592806667	P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927	3
GSDC*GIVNVNIPTSGAEIGGA FGGEK	C478 C441 C450 C414 C414 C478 C441 C450 C414 C414 C478 C441 C450 C414 C414	1.592632	P49419 A0A140T9V3 P49419 F8VS02 P49419 P49419 A0A140T9V3 P49419 F8VS02 P49419 P49419 A0A140T9V3 P49419 F8VS02 P49419	4
LC*VQNSPQEAR	C141 C150 C150 C150 C150 C141 C150 C150 C150 C150	1.591972	A0A0A0MT56 E9PID8 P33240 P33240 E7EWR4 A0A0A0MT56 E9PID8 P33240 P33240 E7EWR4	2
DPLDPNEC*GYQPPGAPPGLG SMPSSSCGPR	C131 C131	1.591813333	Q8N5L8 Q8N5L8	2
TC*LLIVFSK	C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20	1.590436	P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6 P61586 P61586 P62745 P62745 P08134 Q5JR08 E9PQH6 C9JNR4 P61586 P62745	3
KC*PFTGNVSIR	C60 C60 C60 C60	1.589318889	P62280 P62280 P62280 P62280	4
EC*EGIVPVPLAEK	C105 C105 C105	1.588690714	P82932 P82932 P82932	4
AIC*TEAGLMALR	C326 C399 C326 C399	1.588681429	P62191 P62191 P62191 P62191	2
AVLLASDAQEC*TLEEVVER	C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332	1.5879725	Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81	4
TSSVSNPQDSVSGSPC*SR	C106 C108	1.585705	F5GZ78 P49023	3
MC*DLVSDFDGFSEK	C182 C182 C182	1.58494	P30520 P30520 P30520	3
DSGLFC*VPLTALLEQDQR	C323 C278 C323 C278	1.58444	Q8N392 Q8N392 Q8N392 Q8N392	2
ADPDGPEAQAEAC*SGER	C18 C18 C18 C18	1.582943077	D6RCB9 J3QSY4 D6RC52	4
WASGLTPAQNC*PR	C115 C115 C115 C115 C115 C115 C115 C115 C115 C115 C115 C115 C115 C115 C115 C58	1.5827725	A2AB90 O15533 O15533 A0A0A0MSV9 A0A0G2JKZ1 A0A0G2JH37 O15533 A2AB90 O15533 Q6P1N7 O15533 A0A0A0MSV9 A0A0G2JKZ1 A0A0G2JH37 O15533 C9JA35	2
SVLLC*GIEAQACILNTTDLDD R	C107 C107 C107	1.582605	K7ENV7 K7EKW4 Q96AB3	2
SHSSDFPC*SDFSNFTFWR	C869 C905 C863 C948 C889 C899	1.581856667	Q14693 Q14693 Q14693 Q14693 Q14693 Q14693	3
IVLAGC*PEVSGPTLLAK	C39 C39 C39	1.581495	Q96EM0 Q96EM0 Q96EM0	3
LTVVDTPGYGDAINC*R	C71 C111 C71 C111 C146 C111 C71 C111 C122 C122 C71 C111 C71 C71 C121 C83 C111 C146 C111 C71 C111 C122	1.580354167	C9IY94 C9J938 C9IZU3 Q15019 C9JB25 C9J2Q4 Q15019 C9JQJ4 C9JQJ4 C9IY94 C9J938 B5MD47 Q15019 H7C310 C9IZU3	4

			Q15019 C9JB25 C9J2Q4 Q15019 C9JQJ4	
FGSQC*MQPNNIMGIENICELAR	C67 C47 C200 C67 C47 C200	1.579905	P24468 P24468 P24468 P24468 P24468 P24468	2
TDICQGALGDC*WLLAAIASLT LNEEILAR	C105 C105	1.578625	P17655 P17655	4
IDC*FSEVPTSVFGEK	C384 C384 C384	1.578312	O00567 O00567 O00567	3
GDHASLENEKPGTGDVC*SAP AGR	C211 C175 C211 C175 C211	1.57802	Q14699 Q14699 C9JHG2	2
EIITLQLGQC*GNQIGFEFWK	C13 C13 C13 C13 C13 C13 C13 C13	1.577382857	P23258 Q9NRH3 P23258 Q9NRH3 P23258 Q9NRH3 P23258 Q9NRH3	4
EVC*PVLDQFLCHVAK	C22 C22 C22 C22 C22 C22 C22	1.576626667	Q9NY27 Q9NY27 Q9NY27 C9IZF4 F8WCA1 Q9NY27 C9IZ04	3
C*HDYYTTEFLYNLYSSEGK	C630 C630 C630 C630 C630 C630 C630 C630	1.57661	P17858 P17858 P17858 P17858 P17858 P17858 P17858 P17858	4
AHGC*FPEGR	C65 C65 C65 C65	1.576205	Q7Z5L9 Q7Z5L9 Q7Z5L9 Q7Z5L9	2
AC*PRPEGLNFQDLK	C219 C227 C307 C219 C227 C307 C219 C227 C307 C219 C227 C307	1.57612375	P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927 P15927	4
LDEDLAAYC*R	C91 C111 C91 C111	1.57597	P09543 P09543 P09543 P09543	2
IC*PVEFNPNFVAR	C33 C33 C33 C33 C33 C33	1.575661875	Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30	4
SLEPSPSPGPQEEDGEVALVL LGRPSGAVGPEDVALC*SSR	C1637 C1637 C1612 C1531 C1531 C1612	1.57518	Q14160 A0A0G2JPP5 A0A0G2JNZ2 Q14160 A0A0G2JMS7 Q14160	2
AEGSDVANAVLDGADC*IMLS GETAKGDYPLEAVR	C358 C343	1.574848095	P14618 P14618	4
IAVYSC*PFDGMITETK	C244 C171 C244 C225 C244	1.574324545	P50990 P50990 P50990 P50990 P50990	4
C*YYSNTDAVIYVVDSCDRDR	C63 C80	1.57363	P40616 P40616	2
GEVPC*TVTSASPLEEATLSEL K	C141 C141 C141 C37	1.573148	P48047 P48047 P48047 H7C068	3
KPASFMTSIC*DER	C845 C835 C845 C835 C845 C835 C845 C835	1.572913333	P53396 P53396 P53396 P53396 P53396 P53396 P53396 P53396	4
EDSEELGLPDVNPNC*QRPR	C1239 C1239 C1239	1.572786667	Q52LW3 Q52LW3 Q52LW3	3
IISNASC*TTNC*LAPLAK	C152 C156	1.572136667	P04406	2
AILQQLGLNSTC*DDSILVK	C813 C812 C801 C817	1.5710025	P19367 P19367 P19367 P19367	3
HISPTAPDTLGC*YPFYK	C419 C384	1.568985	A0A087WWF6 P49005	2
YNAMVLELLGPSLEDLFDLC*D R	C130 C133 C132 C132 C132 C130 C130 C84 C132 C55 C132 C148 C130 C132 C132	1.568865	Q9Y6M4 P78368 A0A0U1RQY7 A0A0U1RQT7 U3KQA5 Q9Y6M4 Q9Y6M4 A0A087WWF5 Q9Y6M4 Q9HCP0 K7ESB6 Q9Y6M4 U3KQB3 Q9HCP0	2
HLNEIDLFC*IDPNDSK	C58 C58 C62 C58 C58 C62 C58 C58 C62 C58 C58 C62 C58 C58 C58 C62	1.568341154	Q15185 Q15185 A0A087WYT3 Q15185 Q15185 A0A087WYT3 Q15185 Q15185 A0A087WYT3 Q15185 Q15185 A0A087WYT3 Q15185 Q15185 Q15185 A0A087WYT3	4
TGTQEVGGQDPGEAVQPC*R	C443 C443 C391 C443 C443 C391	1.56798	Q9NZT2 Q9NZT2 A0A0A0MRN5 Q9NZT2 Q9NZT2 A0A0A0MRN5	2

INISEGNC*PER	C54 C54 C54 C54 C54 C54 C54 C54 C54 C54 C86 C86 C54 C86 C86	1.56583	Q15365 Q15365 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 P57721 P57721 Q15365 Q15365 Q15365 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15365 Q15365 Q15365 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 P57721 P57721 P57721	4
AGAIAPC*EVTVPAQNTGLGP EK	C119 C119 C119 C99 C119 C119 C99 C119 C119 C119 C119	1.564518462	P05388 F8VU65 P05388 F8VW21 F8VU65 P05388 F8VW21 P05388 F8VWS0 P05388 P05388	4
CDQDAQNPLSAGLQGAC*LM ETVELLQAK	C256 C261 C140 C258 C256 C256 C261 C140 C258 C256	1.564195	F8W116 Q13561 H0Y198 Q13561 Q13561 F8W116 Q13561 H0Y198 Q13561 Q13561	2
AKC*ELSSSVQTDINLPYLTMD SSGPK	C317 C317 C317 C22 C317	1.563957143	P38646 P38646 P38646 H0YBG6 P38646	4
EADGSDSLEGFVLC*HSIAGG TGSGGLGSYLLER	C138 C138	1.56393	P23258 Q9NRH3	2
LC*PGGQLPFLLYGTEVHTDT NK	C59 C59 C59	1.563388462	O00299 O00299 O00299	4
ENFSLDWC*K	C117 C117 C113 C117 C113	1.562835714	P23919 P23919 H7BZ20 P23919 H7BZ20	4
VVMALGDYMGASCHAC*IGGT NVR	C134 C134 C134 C134 C134 C134	1.561072941	P60842 P60842 P60842 P60842 P60842 P60842	4
ELQEGTYVMVAGPSFETVAEC *R	C206 C206 C206	1.560776	P00491 P00491 P00491	3
TGC*TFPEKPDFH	C353 C318 C336 C353 C318 C336 C353 C318 C336 C353 C318 C336	1.558739524	P55263 P55263 P55263 P55263 P55263 P55263 P55263 P55263 P55263 P55263 P55263 P55263	4
LVDHLLPPEVC*SLLNPAIYA NNEISLR	C85 C85 C17	1.55831	Q9H857 Q9H857 H7C4G8	2
SEGTYC*C*GPVPVR	C370 C370	1.5582925	P21980	3
INPYMSSPC*HIEMILTEK	C144 C144 C144 C106 C144 C134 C106 C144 C144	1.558119286	A0A087 P18621 P18621 P18621 A0A0A6YYL6 J3QLC8 A0A0A0MRF8 J3QQT2	4
LC*LNICVGESGDR	C20 C21 C19	1.558015	P62913 P62913 Q5VVC8	3
YDC*GEEILITVLSAMTEEA AV AIK	C159 C129	1.557900417	P63241 P63241	4
YNLEELYQAVENLC*SYK	C235	1.5578575	K4DI93	4
ETNDDNYGPGPSLRPPNVAC* WR	C179 C177 C179 C177 C177 C177 C177 C179 C177 C179 C177 C177 C177 C177	1.55654	E7EPN9 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 E7EPN9 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520	3
LLAIC*QPLTYSTR	C136 C136 C136 C136 C136 C136 C136 C136	1.55238	P47893 P47888 P47893 P47888 P47893 P47888 P47893 P47888	4
SVTYTLAQLPC*ASMALQILWE AAR	C137 C137 C137 C137	1.551934444	O14684 O14684 O14684 O14684	4
NSQWVPTLPNSSHHLDAVPC* STTINR	C138 C147 C138	1.55184	G5E975 Q12824 Q12824	2
HEEFCVPMVMVPATVSNNVP GSDFSIGADTALNTITDC*DR	C563	1.551472917	Q01813	4
YHPLSSC*LTAR	C840 C819 C776 C840 C819 C840	1.549923333	Q96T76 Q96T76 Q96T76 Q96T76 Q96T76 Q96T76	3
ETARPCYSLALAQLLQSFEDL PLC*SILQQIQEK	C109 C109 C29 C109 C109 C29	1.549103333	Q9BQG0 Q9BQG0 I3L1L3 Q9BQG0 Q9BQG0 I3L1L3	4

YSLADQTSQDQSPLPPCTPTP PC*AEMR	C569 C573	1.548825	Q06124 Q06124	2
GSDPFASDC*FFR	C657 C523 C657 C523	1.5471	P42566 B1AUU8 P42566 B1AUU8	2
C*ANLFEALVGTLK	C39 C39	1.54708	Q9P1F3 Q9P1F3	2
C*SDSDGLAPPQHLIR	C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182 C182 C50 C143 C143 C143 C143 C50 C171 C182 C182 C50 C50 C182 C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182	1.545559091	P04637 P04637 A0A087WT22 P04637 P04637 A0A0U1RQC9 A0A087 A0A087 P04637 P04637 A0A087WZU8 J3KP33 P04637 P04637 E7ESS1 P04637 P04637 P04637 P04637 P04637 A0A0U1RQC9 P04637 P04637 A0A087WZU8 J3KP33 P04637 P04637 E7ESS1 P04637 P04637 P04637 A0A087WT22 P04637 P04637 A0A0U1RQC9 A0A087 A0A087 P04637 P04637 A0A087WZU8 J3KP33 P04637 P04637 E7ESS1 P04637	4
ALANVNIQSLIC*NVGAGGPAP AAGAAPAGGPAPSTAAAPAE K	C61 C36 C61	1.543122381	P05386 P05386 P05386	4
GTVLLADNVIC*PGAPDFLAHV R	C223 C173 C223 C173 C223 C173	1.542931935	P21964 P21964 P21964 P21964 P21964 P21964	4
HEASDFPC*R	C32	1.54288	P18031	2
LGPQSDPTEANLESADPELC *IR	C38 C38 C38 C38	1.541853333	Q27J81 Q27J81 Q27J81 Q27J81	2
VLLSIC*SLLCDPNPDDPLVPEI AR	C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101	1.541361429	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	4
C*QNALQQVVAR	C602 C620 C602 C620	1.54004	Q06210 Q06210 Q06210 Q06210	3
YC*VRPNSGIIDPGSTVTVSVM LQPFYDPNEK	C60 C60	1.538912857	Q9P0L0 Q9P0L0	4
AILFSQPLQITDTQQGC*IAPVE LR	C716 C716 C716 C716 C357 C716	1.538478182	Q8NBF2 Q8NBF2 Q8NBF2 Q8NBF2 Q8NBF2 Q8NBF2	4
SVTSNQSDGTQESC*ESPDVL DR	C359 C347 C372 C264 C359 C347 C372 C270 C264 C359 C347 C372	1.537383333	Q9UGV2 Q9UGV2 Q5TH30 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30	3

NQHIPPQYCGSC*WAHASTSA MADR	C92	1.53364	Q9UBR2	2
LWNTLGVK*K	C138 C138 C138	1.53354	P63244 P63244 P63244	3
YAEYFLRPMLQYVC*DNSPEV R	C915 C933 C917 C915 C933 C917 C915 C933 C917	1.532668	O00410 O00410 H0Y8C6 O00410 O00410 H0Y8C6 O00410 O00410 H0Y8C6	3
LFFIQAC*R	C186 C271 C161 C219 C186	1.532363333	P55210 A0A0A0MRL7 P55210 P55210 Q5SVL2	2
SQC*TPLFMNAYTMR	C59 C97 C50 C59 C97 C50 C59 C97 C50 C59 C97 C50	1.53139	S4R3D6 S4R3D6 S4R3D6 S4R3D6	4
NQHIPPQY*GSCWAHASTSA MADR	C89	1.53007	Q9UBR2	2
NDITAWQEC*VNN SMAQLEHQ AVR	C106	1.529572857	O75934	3
VDDFEAGAAAGAAPGEEDLC* AAFNVICDNVKGKDW	C98 C98 C98	1.5293725	Q13158 Q13158 Q13158	2
GMYGIENEVFLSLPC*ILNAR	C294 C294 C294 C294	1.5289475	P07195 P07195 P07195 P07195	4
ADEASELAC*PTPK	C2202 C2202 C2200 C2202 C2202	1.528255	P49327 P49327 A0A0U1RQF0 P49327 P49327	4
ASIGAGFIYPLVGT MSTMPGLP TRPC*FYDIDLDTETE QVK	C961 C962 C896	1.5281492	Q6UB35 B7ZM99 A0A087WVM4	4
DYVLNC*SILNPLLLTK	C208 C208 C115	1.527585	O60684 O60684 Q5TFJ7	2
GEEKDLAVVTQSAEAPAEEDL LGPNC*YYDK	C310 C230 C310	1.52723	Q5TBP9	3
AQQEQLLLKQLQQQQQPP SQLC*TAPASSHER	C385 C527 C296 C385 C527 C345 C385 C527 C296 C385 C527 C345	1.526233333	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5	2
SRPNASGGAAC*SGPGPEPA VFCEPVVK	C108 C108 C108 C108 C108 C108	1.525936	Q6L8Q7 Q6L8Q7 Q6L8Q7 Q6L8Q7 Q6L8Q7 Q6L8Q7	4
TC*SFGGFDLTNR	C406	1.525796667	O94885	2
VHNQDPKDWPAQYC*EALAD EENR	C283	1.525643333	Q96MG7	2
FLYEC*PWR	C622 REVERSE C622	1.525026667	P11498 P11498	3
KAAAPAEEMDEC*EQALAA EPK	C316 C266 C316 C266 C316 C266 C316 C266 C316 C266 C316 C266	1.524754186	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	4
C*EFQDAYVLLSEK	C237 C237 C237 C237 C237	1.523131875	P10809 P10809 P10809 P10809 P10809	4
DSGAASEQATAAPNPC*SSSS R	C696 C671 C696 C671	1.523016667	Q9BU23 Q9BU23 Q9BU23 Q9BU23	2
SHIMPAEFSSC*PLNSDEEVNK	C226 C207 C207 C115 C115	1.52217625	Q9H0W9 Q9H0W9 E9PQS1 Q9H0W9 E9PJU8	3
EMNPALGIDC*LHK	C493 C455 C472	1.521545	P48643 B7ZAR1 E9PCA1	2
TDC*SPIQFESAWALTNIASGT SEQTK	C133 C133 C133 C133 C133	1.52054375	P52292 P52292 P52292 P52292 P52292	4
VGIGPGSVC*TTR	C153 C187 C171 C186 C204 C204 C229 C186 C186 C204 C204 C229 C186 C204 C204	1.520293333	H0YMB3 F8WAN9 H0YLV5 Q9P2T1 Q9P2T1 H0YNJ6 H0YNH0 A0A087WVM4 Q9P2T1 Q9P2T1 H0YNJ6 H0YNH0 Q9P2T1 Q9P2T1 H0YNJ6	3
SC*SGVEFSTSGSSNTDTGK	C47 C47 C47 C47 C47 C47	1.520032143	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	3
LILDVFC*GSQMHFVR	C446 C476 C492 C446 C476 C492	1.519963333	P11413 P11413 P11413 P11413 P11413 P11413	2

NNTQVLINC*R	C46 C46 C36 C46 C46 C36	1.519453333	K7ERG4 P62316 P62316 K7ERG4 P62316 P62316	2
IIPGFMC*QGGDFTR	C62	1.518116	P62937	4
ELEAVC*QDVLSLLDNYLIK	C97 C97 C97 C97 C97	1.517604545	P61981 P61981 P61981 P61981 P61981	4
QRPLTASLQC*NSTAQTEK	C92 C92 C92 C92	1.51656	Q9UFW8 C9JUJ0 Q9UFW8 C9JUJ0	2
SEALGVGDVKLPC*EMDAQGP K	C196 C187 C196 C187	1.516308	Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8	4
WNDNC*PSWNTIDPEER	C301 C301 C223 C301 C301 C301 C301	1.516196842	P17655 P17655 P17655 P17655 P17655 P17655 P17655	4
VEDMAELTC*LNEASVLHNLK	C91	1.51603	P35579	3
VLC*ELADLQDKEVGDGTTSV VIIAAELLK	C76 C76 C76 C76 C76 C76	1.515668065	P17987 P17987 P17987 P17987 P17987 P17987	4
NMSVHLSPC*FR	C116 C116 C116 C116	1.514936667	P62280 P62280 P62280 P62280	4
LTVIDTPGFGDHINNENC*WQ PIMK	C357 C211 C356 C368 C375	1.514495	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	2
SPWLAGNELTVADVVLWSVL QQIGGC*SVTVPANVQR	C222 C222 C222	1.513676667	F8W950 F8W950 F8W950	4
EVFSSC*SSEVVLSGDDEEYQ R	C108 C108 C108 C108 C108 C108 C108 C108	1.511501333	Q09666 Q09666 Q09666 Q09666 Q09666 Q09666 Q09666 Q09666	4
AFDLIEHYFGTEDEDSSIAPQV DLNQQQYIFQQC*EAPMEGFQ L	C529	1.511425	P52294	3
LTALDYHNPAGFNC*KDETEF R	C19	1.510935556	Q9Y224	4
FTSC*VAFFNILNELNDYAGQR	C69 C69	1.510703077	S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5	4
GLC*AIAQAESLR	C97 C97 C97	1.509538519	P23396 P23396 P23396	4
IHEGC*EEPATNALAK	C870 C870 C870 C874 C870	1.50935	Q00610 Q00610 Q00610 A0A087WVQ6 Q00610	3
FDDLQFFENC*GGGSFSGSVYR	C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 C22	1.508391667	D4Q8H0 Q9NYL2 Q9NYL2 C9J3F7 Q9NYL2 D4Q8H0 Q9NYL2 Q9NYL2 C9J3F7 Q9NYL2 D4Q8H0 Q9NYL2 Q9NYL2 C9J3F7 Q9NYL2	2
QYPWGVVQVENENHC*DFVK	C293 C293 C278 C293 C293 C268 C268 C278 C268 C260	1.507796667	Q9P0V9 Q9P0V9 B5ME97 E7EW69 D6RER5 D6RGI3	3

			Q9NVA2 Q9NVA2 D6RDU5	
NEC*DPALALLSDYVLHNSNT MR	C459	1.506645	Q13200	4
MSPLSIVTALVDKIDMC*K	C95 C164 C122 C155 C95 C164 C122 C155	1.504613333	Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305	3
EGDVAAC*YANPSLAQEELGW TAALGLDR	C307 C307 C307	1.500898333	Q14376 Q14376 Q14376	4
HELQANC*YEEVKDR	C122 C139 C177 C139 C122 C139 C177	1.500165854	G3V1A4 P23528 E9PK25 E9PP50 G3V1A4 P23528 E9PK25	4
LGMLSPEGTC*K	C212	1.49991	P49327	2
LKNCGC*LGASPNLEQLQEEN LK	C34 C34 C34	1.499411	P54136 P54136 P54136	3
IPDWC*SLNNPPEMMFDVGK	C388 C388 C388 C388 C388 C388	1.498850714	Q9NZ32 Q9NZ32 Q9NZ32 Q9NZ32 Q9NZ32 Q9NZ32	4
IQFNDLQSLLC*ATLQNVLR	C440 C585 C440 C585 C440 C585 C440 C585 C440 C585 C440 C585 C440 C585 C440 C585	1.498544	Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974 Q14974	4
YATSCYSCC*PR	C144 C173 C144 C173	1.498173333	Q13057 Q13057 Q13057 Q13057	2
IKELPELWLGQNEFDFMTDFV C*K	C261 C204 C266 C261 C204 C266	1.497906667	Q99967 Q99967 A0A0A0MTM3 Q99967 Q99967 A0A0A0MTM3	3
FTTEIHpsc*vtr	C612 C612 C612 C612	1.497792222	P29317 P29317 P29317 P29317	3
C*LPEIQGIFDRDPDTHLLYLLQ QK	C126 C126 C116 C126 C126 C116 C126 C126 C116 C126 C126 C116 C126 C126 C116	1.497596667	Q96F24 A0A087WUL7 Q96F24 Q96F24 A0A087WUL7 Q96F24 Q96F24 A0A087WUL7 Q96F24 Q96F24 A0A087WUL7 Q96F24 Q96F24 A0A087WUL7 Q96F24	4
VLVTTNVC*AR	C392 C310 C393 C361 C302 C392 C310 C393 C361 C302 C392 C310 C284 C362 C393 C361 C393 C367 C398 C302	1.496005714	Q9NUU7 I3L352 F6QDS0 I3L0H8 Q9NUU7 Q9NUU7 I3L352 F6QDS0 I3L0H8 Q9NUU7 Q9NUU7 I3L352 Q9UMR2 Q9UMR2 F6QDS0 I3L0H8 Q9UMR2 Q9UMR2 H3BQK0 Q9NUU7	4
IADISQVYTQNAEMRPLGCC* MILIGIDEEQGPQVYK	C118 C137 C58 C137 C137	1.493353333	P60900 P60900 P60900 G3V295 P60900	3
VCNALALLQC*VASHPETR	C99 C99 C99 C99 C99 C99 C99 C99 C99 C99	1.49287	Q92600 Q92600 Q92600 Q92600 Q92600 Q92600 Q92600 Q92600 Q92600 Q92600	4
LC*WFLDEAAAR	C237 C237	1.492551111	O95336 O95336	3
LLLC*GGAPLSATTQR	C450 C450 C450 C450 C450	1.492526923	O95573 O95573 O95573 O95573 O95573	4
GSQMGTVQPIPC*LLSMPTR	C531 C559 C531 C559 C531 C559	1.491762308	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2	4
GPSGC*VESLEVTCT	C646 C657 C646 C657	1.491603333	P47897 P47897 P47897 P47897	2
C*PEALFQPSFLGMESCGIHET TFNSIMK	C257	1.490592	P63261	4
GVLMYGPPGC*GK	C210 C179 C210 C179 C210 C179 C210 C179	1.489912222	P43686 P43686 P43686 P43686 P43686 P43686 P43686 P43686	4

VAC*ITEQVLTLVNKR	C477 C477 C477 C477	1.487851579	P04843 P04843 P04843 P04843	4
TQADELPAC*LLSAAR	C597 C600 C597 C600	1.48769	P10398 Q96II5 P10398 Q96II5	2
LNISFPATGC*QK	C12 C12 C12 C12 C12 C12	1.487372	P62753 P62753 P62753 P62753 P62753 P62753	4
GC*LLYGPPGTGK	C170 C184 C170 C184 C170 C184 C170 C184 C170 C184	1.483908	P62333 A0A087 P62333 A0A087 P62333 A0A087 P62333 A0A087 P62333 A0A087	4
NLGNSC*YLNVSQVLFSDIPDF QR	C335 C335 C335 C335 C335 C335	1.483445	P45974 P45974 P45974 P45974 P45974 P45974	4
WC*EYGLTFTEK	C76 C76 C76 C76 C76 C76	1.481847778	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	4
FIC*TTSIQNR	C20 C20 C20 C20 C20 C20 C20 C20 C20 C20	1.481730833	P53396 P53396 P53396 P53396 P53396 P53396 P53396 P53396 P53396 P53396	4
DTC*YSPKPSVYLSTPSSASK	C540	1.48171	Q9Y5K6	2
GVTDEAC*LIEILASR	C261 C294	1.48124	P50995 P50995	2
HTGPGILSMANAGPNTNGSQF FIC*TAK	C115	1.48055	P62937	2
VAEC*STGTLDYILQR	C326 C326	1.48008	Q9C0B1 Q9C0B1	2
IAQSTEVLFQGGASLDC*GHG HPDGR	C283 C283	1.47955	O60486 O60486	2
AVASQLDC*NFLK	C193 C207 C193 C207 C22 C22 C22 C22 C22 C22	1.47875	P62333 A0A087 P62333 A0A087	2
DLNC*VPEIADTLGAVAK	C22 C22 C22 C22 C22 C22	1.478198333	O14744 O14744 O14744 O14744 O14744 O14744	4
NC*LNPQFSK	C54 C54	1.4781	O75131 O75131	2
YTVQDESHSEWVSC*VR	C153 C153 C153	1.47761	P63244 P63244 P63244	3
LALDCSGQQVAVDLFLLSGQY SDLASLGC*ISR	C704 C704 C704 C704	1.476195	O95486 O95486 O95486 O95486	3
FYTDVPEAVKDIPDGATVLVG GFGLC*GIPENLIDALLK	C67 C67	1.475225714	P55809 P55809	3
TC*DISFSDPDDLNFK	C47 C47	1.474805	P61081 P61081	2
AVSTGVQAGIPMPC*FTTALSF YDGYR	C409 C422 C409 C422 C409 C422 C409 C422	1.47388	P52209 P52209 P52209 P52209 P52209 P52209 P52209 P52209	3
EC*PTVAPAHSLTK	C577 C577 C577 C565 C577	1.473873333	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46	2
QEC*GEPALPSASEEQVAQDT EEVFR	C14 C14 C14 C14 C14 C14	1.4718825	Q16611 A0A0A0MRG8 Q16611 Q16611 A0A0A0MRG8 Q16611	2
WLSDEC*TNAVNFSLR	C350 C380 C345 C350 C380 C345 C350 C380 C345 C350 C380 C345	1.471335556	A0A0C4DGA2 O75521 O75521 A0A0C4DGA2 O75521 O75521 A0A0C4DGA2 O75521 O75521 A0A0C4DGA2 O75521 O75521	3
ERINVYNEAESC*DCLQGQFQ LTHSLGGGTGSGMGTLLISK	C57	1.471198571	M0QYM7	3
VC*NYGLTFTQK	C65 C65 C66 C65	1.47111	Q9Y277 Q9Y277 Q9Y277 Q9Y277	4
LVILANNC*PALR	C52 C52 C52 C52	1.47089	P62888 E5RI99 P62888 E5RI99	2
VILPGMTACIECTLELYPPQVN FPMC*TIASMPR	C237 C223	1.470413636	Q8TBC4 Q8TBC4	4
LVSSPCC*IVTSTYGWTANME R	C590 C590 C590 C590 C590 C590	1.470333	P08238 P08238 P08238 P08238 P08238 P08238	4
YLAEVAC*GDDR	C134 C134 C134 C134 C134 C134 C134	1.469251	P27348 P27348 P27348 P27348 P27348 P27348 P27348	4
NQSFC*PTVNLDKLWTLVSEQ TR	C70 C70 C13 C70 C70 C13 C70 C70 C70 C70	1.468462432	E9PLL6 P46776 E9PJD9 E9PLL6 P46776 E9PJD9	4

	C70 C70 C70 C70 C70 C70		E9PLL6 P46776 E9PLL6 P46776 E9PLL6 P46776 E9PLL6 P46776 E9PLL6 P46776	
LC*YVALDFEQEMATAASSSS LEK	C217 C217 C217 C917 C917 C917 C217 C217 C917 C217 C217 C917	1.468338387	P63261 P63261 P63261 Q6S8J3 Q6S8J3 Q6S8J3 P60709 P63261 Q6S8J3 P60709 P63261 Q6S8J3	4
RVFIMDSC*DELIPEYLNFR	C366	1.467919205	P08238	4
C*QSGGDDNLTSLGTLNFPGR	C270 C282 C32 C367 C52 C341 C367 C278 C341 C37 C282 C32 C341 C367 C341 C270 C367 C367 C52 C341 C367 C278 C37	1.467885	P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150	2
YIPDEADFLGMATVNNC*VSY R	C394 C468 C426 C409 C325 C394 C468 C426 C409 C325	1.4673	Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790	2
RGPC*IYNEDNGIIK	C208 C208 C208 C208	1.467256364	P36578 P36578 P36578 P36578	4
ILVALC*GGN	C343 C343	1.466245	P04083 P04083	2
GYDFC*QVLQWFAER	C175 C175 C175 C175 C175 C175 C175 C175 C175 C175 C175 C175 C175 C175 C175 C175	1.465777059	Q9H223 A0A087WUA5 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5	4
ISSINSISALC*EATGADVEEVA TAIGMDQR	C144 C241 C174 C144 C241 C174 C144 C241 C174 C144 C241 C174 C144 C241 C174 C144 C241 C174	1.465449286	O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701	4
FQYEC*GNYSGAAEYLYFFR	C141 C141 C141 C141	1.464076	P60228 P60228 P60228 P60228	3
VQEAPIDEHWIIEC*NDGVFQR	C91 C91 C91 C91 C91 C91 C91 C91 C91 C91 C91 C91 C91 C91	1.4637075	Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353	4
KAVVVC*PK	C607 C588 C607 C588	1.46269	Q00839 Q00839 Q00839 Q00839	2
AEPQC*TSLAWSADGQTLFA GYTDNLVR	C286 C286 C286 C286 C286 C286 C286 C286 C286 C286	1.462416667	P63244 P63244 P63244 P63244 P63244 P63244 P63244 P63244 P63244 P63244	4
AC*DLPAAVHFPDTER	C153 C123	1.460718889	A0FGR8	4
VTEDENDPIEIPSEDDGTVLL STVTAQFPGAC*GLR	C39 C39	1.460045	A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7 A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7 A0A087 K7EN94 A0A087 A0A087WYY0 G3V162 Q13148 A0A0A0MSV7 B1AKP7 K7EJM5 K7EJ99 A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7 A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7	4
NC*GCLGASPNEQLQEENLK	C32 C32	1.45955625	P54136 P54136	4
SVDGSPPTAFTVLEC*EGSR	C151 C121 C525 C550	1.4587425	M0QZF4 M0R0S2 M0R2P6 Q8TBC3	3

SCFLCMVC*K	C40 C40 C40 C40	1.458248333	P21291 E9PS42 P21291 P21291	4
TYSHLNIAGLVGSIDNDFC*GT DMTIGTDSALHR	C170	1.458065	P17858	3
IC*DQWDNLGALTQK	C480 C480 C480 C480	1.456038571	P12814 P12814 P12814 P12814	3
SFEC*LLGLNSNIGIR	C88 C39 C88 C88 C39 C88 C88 C39 C88	1.45602	H3BTQ7 H3BT22 Q9Y5N6 H3BTQ7 H3BT22 Q9Y5N6 H3BTQ7 H3BT22 Q9Y5N6	3
ELADYLC*EDAQQLSLEDTFST MK	C898 C898 C898 C898 C898 C898	1.455146	Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81	3
IC*LQPPPTSR	C41	1.455125	P26640	2
IHQC*ISINMLADKLNMTPEEA ER	C350 C350	1.455064	P60228 P60228	3
IDPLAPLDKVCLLGC*GISTGY GAAVNTAK	C174	1.4550575	P11766	3
METYC*SSGSTDTSPVIDAVTH ALTATTPYTR	C288 C288 C288 C201 C288	1.454195	Q02338 Q02338 Q02338 E9PCG9 Q02338	4
SPAAEC*LSEKETEELMAWMR	C573 C364 C520	1.4531775	Q12931 I3L0K7 Q12931	2
LREC*LPLIIFLR	C41 C41 C41	1.45252625	P62701 P62701 P62701	4
TENTIFSTTLPRPGDPGAPPL PPDLQLEEEGTC*ANSSEMFL PLR	C215	1.4513975	O95999	4
GDLNDCFIPC*TPK	C147 C203 C147 C203	1.4507	P11586 F5H2F4 P11586 F5H2F4	2
HLSSC*AAPAPLTAER	C141 C141	1.450281429	Q6IBS0 D6RG15	3
AFQHLSEAVQAAAAEQPPS WSC*GPAAGVIDAYMTLADFC DQQLR	C3403 C3403 C3403	1.44716	P78527 P78527 P78527	2
YSYVC*PDLVK	C235 C235	1.44613	P61158 P61158	4
DSGYIDC*WDSER	C182 C182 C182 C182 C182 C182 C182 C182 C182 C182 C182 C182 C182 C182 C182	1.4460725	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46	3
FC*AFGGNPPVTGPR	C152 C150 C152 C150 C152 C150 C152 C150	1.4453925	O15446 O15446 O15446 O15446 O15446 O15446 O15446 O15446	4
YTIVVSATASDAAPLQYLAPYS GC*SMGEYFR	C294 C244 C272	1.44531	P25705 P25705 P25705	4
ITAFVPNDGC*LNFIENDEVL VAGFGRK	C90 C90 C90	1.444866765	P62266 P62266 P62266	4
C*FIVGADNVGSK	C27	1.444863333	P05388	2
GLYDGPVC*EVSVTPK	C468 C504 C468 C504 C468 C504	1.44445375	Q16555 Q16555 Q16555 Q16555 Q16555 Q16555	3
C*NNVLYIR	C66 C66	1.44396	P62306 P62306	2
IYHPNVDENGQICLPIISENW KPC*TK	C105 C98 C98 C32 C98	1.443802	E9PQT7 O14933 O14933 O14933 O14933	4
TSGSEDDNAEQAAEELEPGWV VLDQPDAAAC*HLQQQEPSPL PPGWEER	C192 C601 C182 C192 C601 C182 C192 C601 C182	1.443581667	P46934 P46934 P46934 P46934 P46934 P46934	2
EHINLGC*DMDFDIAGPSIR	C127 C127 C127 C127 C127	1.441808889	P21796 P21796 C9JI87 P21796 C9JI87	3
LSEAAC*EEDSASEGLGELFL DGLSTENPHGAR	C238 C238 C238 C238 C238	1.441595	O95801 O95801 O95801 O95801 O95801	4
SNTGGQAFPQC*VFDHWQILP GDPFDNSSRPSQVVAETR	C812	1.441013636	P13639	4
SYC*AEIAHNVS	C96 C96 C114	1.440204545	D3YTB1 P62910 F8W727	3
RGPEVTSQGVQTSSPAC*K	C732 C813 C270 C603 C627 C892 C627 C31 C892 C892 C732 C813	1.4376825	V9GY86 H0YH87 F8W0B5 Q99700 F8VQP2 Q99700 F8WB06 F8WB05	3

	C270 C603 C627 C892 C627 C31 C892 C892		Q99700 Q99700 V9GY86 H0YH87 F8W0B5 Q99700 F8VQP2 Q99700 F8WB06 F8WB05 Q99700 Q99700	
EALAEASAWC*YLYGTGSVAG VYLPGRS	C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684 C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684 C3707 C3707 C3707 C3821	1.437561818	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	4
GIGMNEPLVDC*EGYPR	C59 C59 C59 C59 C59 C59	1.4371475	O00233 J3KN29 O00233 F5H5V4	4
KC*EPIIMTVPR	C396 C349 C343	1.4356975	Q9ULV4 Q9ULV4 Q9ULV4	2
IPDQLGYLVLSEGAVLASSGDL ENDEQAASAISELVSTAC*GFR	C51 C51 C51 C51 C51 C51 C51 C51 C51	1.43545	A0A087WV46 Q0VGL1 A0A087WV46 Q0VGL1 A0A087WV46 Q0VGL1	2
DRIPGPVC*K	C52 C52	1.434715	Q8TDN6 Q8TDN6	2
GYDSAGVGFDDGNDKDWEA NAC*K	C55 C55	1.4346925	Q06210 Q06210	3
C*LMDQATDPNIGR	C4106 C4106	1.433496667	P78527 P78527	2
SDLYEVIQSTLDGLLC*TSLPV WLENHTALTVVMASK	C322 C322 C322 C322 C322	1.433256667	P22102 P22102 P22102 P22102 P22102	4
AKLTPGCEAEAEATEAIC*FFVQ QFTDMEHNR	C2369	1.431988333	P49327	4
GQNGDDSSAGGDFPPPAEVE PTPEAELLAQPC*HDSEASK	C122 C122	1.431465	O94992 O94992	2
AILQHLESTC*DDSIIVK	C813 C785 C813	1.43135	P52789 E9PB90 P52789	2
AFVNPFPDYEAAGALLASGA AEETGC*VRPPATTDEPLPF HQDQK	C49 C49 C49	1.430635	Q9NS86 Q9NS86 Q9NS86	4
YWLC*AATGPSIK	C249 C249 C249 C249 C249	1.430467273	P63244 P63244 P63244 P63244 P63244	4
GTSQADC*AVLIVAAGVGEFE AGISKNGQTR	C111 C111 C111 C111 C111	1.429053429	P68104 A0A087WV01 Q05639 P68104 Q05639	4
GTHTGVWVGVSGETSEALS RDPETLVGYSMVGC*QR	C135	1.428342353	P49327	4
LEKPNEGYLEFFVDC*SASATP EFEGR	C85 C85	1.42707	Q15024 Q15024	2
IGC*PLTPLPPVSIAR	C218 C174 C218 C218 C174 C218	1.4257175	Q15042 Q15042 Q15042 Q15042 Q15042 Q15042	2
GC*STVLSPEGSAQFAAQIFGL SNHLVWSK	C374 C374 C374 C374 C374 C374 C374 C374 C374	1.424666	E9PBS1 P22234 E9PBS1 P22234 P22234 P22234 P22234 E9PBS1 P22234	4
NAIDDGC*VVPGAGAVEVAMA EALIK	C361 C406 C361 C406 C361 C406 C361 C406	1.424018182	P40227 P40227 P40227 P40227 P40227 P40227 P40227 P40227	4
VTTGAPIPC*GADAVVQVEDT ELIR	C419 C465 C452 C419 C465 C452 C419 C465 C452	1.423788333	F5H039 F5H039 F5H039	3
SQEATEAAPSC*VGDMADTPR	C230 C84 C229 C241 C248 C230 C84 C229 C241 C248 C230 C84 C229 C241 C248 C230 C84 C229 C241 C248	1.422531667	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	4
DVNLASC*AADGSVK	C299 C298 C299 C298	1.421435	O43172 O43172 O43172 O43172	2
VNQAIWLLC*TGAR	C176 C155 C155 C176 C155 C155 C176 C155 C155	1.4203	M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782	4

			M0R0R2 M0R0F0 P46782	
C*IAMMCNEFFEGFPDKQPR	C81	1.42019	P26447	2
QMEKDETVSDC*SPHIANIGR	C206 C235 C206 C194 C232 C206 C235 C206 C194 C232	1.417601667	P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85	3
VLC*LAVAVGHVK	C164 C164	1.417326667	P62906 P62906	3
C*PDGGDNADSSNTALNMPVI PMNTIAEAVIEMINR	C748 C758	1.415136667	O15294 O15294	2
SNC*KPSTFAYPAPLEVPK	C806 C806 C806	1.414033333	Q99460 Q99460 Q99460	3
VTEAPC*YPGAPSTEASGQTG PQEPTSAR	C523 C523	1.413272727	P40222 P40222	3
SC*SVTDAVAEQGHLPPPSVA YVHTTGPLPSGWEER	C220 C341 C333 C220 C341 C333 C220 C341 C333	1.411777143	Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5	4
DHQPC*IIFMDEIDAIGRR	C228 C242	1.410650323	P62333 A0A087	4
LMSNLDSNRDNEVDFQEYCV FLSCIAMMC*NEFFEGFPDK	C86	1.40985	P26447	2
HC*GYLALVLSALACGADWVFL PESPPEEGWEEQMCVK	C221 C221	1.40964	Q01813 Q01813	3
QPTVTSVC*SETSQELAEGQR	C213 C213 C213	1.409595	Q96HC4 Q96HC4 Q96HC4	3
GC*WDSIHVVEVQEK	C147 C176 C147 C135 C173	1.409023333	P47756 B1AK88 P47756 B1AK87 B1AK85	4
VLGAHILGPGAGEMVNEAALA LEYGASC*EDIAR	C429 C477 C454 C378	1.407455455	P09622 P09622 P09622	3
TIAEC*LADELINAAK	C193 C172 C172 C193 C172 C172 C193 C172 C172 C193 C172 C172 C193 C172 C172	1.407003333	M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782	4
AWVWNTHADFADEC*PKPELL AIR	C209 C82 C132 C132 C132 C82 C209 C82 C132 C132 C132 C82	1.405583636	F6WQW2 P43487 P43487 C9JJ34 C9JGV6 F6WQW2 P43487 P43487 C9JJ34 C9JGV6	4
TDSCDVNDC*VQQVVELLQER	C212	1.405215	O43252	2
ENVNVEEMFNC*ITELVLR	C163 C147 C163 C147	1.404265	Q15286 F5H157 Q15286 F5H157	3
IC*DQWDALGSLTHSR	C499 C499	1.404085714	Q43707 Q43707	4
QLFALSC*TAEQGVLPDDLS GVIR	C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60	1.403323846	P04899 P04899	4
HCGYLALVLSALAC*GADWVFL PESPPEEGWEEQMCVK	C232 C232	1.40251	Q01813 Q01813	4
YFTQGNC*VNLTEALSLYEEQL GR	C265 C318 C265 C318	1.4014625	P52788 P52788 P52788 P52788	2
C*VYTYIQEFYR	C415 C948 C288 C892 C415 C948 C288 C892	1.399993333	B5MC10 A0A087WVP4 A0A096LNK9 P53814 B5MC10 A0A087WVP4 A0A096LNK9 P53814	3
TLQNTMVNLGLQNAC*DEAIY QLGLDLEEEIEEDAGLGNG GLGR	C109 C109 C109	1.39976	P11216 P11216 P11216	4
ANSWFNC*R	C466 C466 C466	1.398774	P03956 P03956 P03956	4

SSSVTTSETQPC*TPSSSDY SDLQR	C334 C334	1.398596667	P50552 P50552	3
STPYEC*GFDPMSPAR	C39 C39 C39	1.39838875	P03897 P03897 P03897	3
YINENLIVNTDELGRDC*LINAA K	C147	1.397212308	P17987	4
VEEEDDAEHVLLALTMLCLTEG AKDEC*NVVEVVAR	C79 C79	1.39687	O75607 O75607	2
AC*QSIYPLHDFVFR	C201 C164 C181 C164 C201 C164 C181 C164 C201 C164 C181 C164 C201 C164 C181 C164	1.39589	P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09	4
GTDIMYTGTLDC*WR	C257	1.39504	P05141	3
DNLTWTSDSAGEEC*DAAEG AEN	C237 C237 C237	1.39501	P27348 P27348 P27348	3
AFGELC*PNTAPLQLVTEALQ TGTTEWFHLK	C448 C448 C448 C448	1.393955	Q70J99 Q70J99 Q70J99 Q70J99	2
LWSVPDC*NLHHLR	C263 C262 C263 C262	1.39335	O43172 O43172 O43172 O43172	2
RPLNPLASGQGTSEENTFYS WLEGLC*VEK	C241 C241 C241 C241 C241 C241	1.393216087	Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7	4
SC*GSSTPDEFPTDIPGTK	C105 C105 C105	1.392905455	P41091 P41091 P41091	3
EGPTALQDSNSGEPDIPPPQP DC*GDFR	C125 C71	1.392185	Q9BWU0 A0A087	2
LWHQLTLQVLDVFDQPC*FAQ GDGLIK	C49 C49 C49	1.390135	A0A087WUL9 J3KNQ3 Q9UNM6	2
DAANC*WTSLLSEYAADPWV QDQMQR	C99	1.389935882	Q8WVJ2	4
WTQTLSELDAVPC*VNFR	C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C188	1.389606429	Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266 Q9Y266	4
DTGTVHLNELGNTQNFMLLC* PR	C126 C126 C126 C126 C126 C126	1.387661111	Q2NL82 Q2NL82 Q2NL82 I3L1Q5 Q2NL82 I3L1Q5	4
YADLTEDQLPSC*ESLKDTIAR	C153 C153 C153 C153 C153	1.387397692	P18669 P18669 P18669 P18669 P18669	4
C*IPYAVLLEALALR	C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110 C110	1.38667	F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8	4
EEFASTC*PDDEEIELAYEQVA K	C223 C223 C223 C223	1.38655375	O00299 O00299 O00299 O00299	4
STLIDTLFNTNFEDYESSHFC* PNVK	C100 C100 C85 C100 C100	1.385755	Q9P0V9 Q9P0V9 B5ME97 E7EW69	2
LSDQC*TGLQGFLVFHSGGG TGSGFTSLMER	C129 C129 C114 C129	1.383906111	P68366 P68366 P68366 P68366	4
YIETSELC*GGAR	C361 C374 C374 C374 C361 C361 C361 C361 C158 C361 C374 C374 C374 C361 C361 C361 C361	1.3837475	O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429 O00429 O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429	2
LTNTYCLVAIGGSENFYSVFE GELSDTIPVVHASIAGC*R	C56 C56 C56 C56 C56 C56	1.382342222	P56537 A0A0B4J1Y7 P56537 B7ZBH1 P56537 P56537	4
YHEVHYILLDPSC*SGSGMPS R	C308 C270 C308 C308 C308 C308 C308	1.3823	Q96P11 Q96P11 Q96P11 Q96P11 Q96P11 Q96P11 Q96P11	2

LEGDLTGPSVDVEVPDVELEC *PDAK	C2162 C2162 C2162	1.38197381	Q09666 Q09666 Q09666	4
MC*LFAGFQR	C594 C575 C594 C575 C594 C575	1.3817175	Q00839 Q00839 Q00839 Q00839 Q00839 Q00839	3
TVFAEHISDEC*K	C62 C114 C62 C114	1.3815375	G5E9G0 P39023 G5E9G0 P39023	3
EC*ELYVQK	C18	1.380935	P10644	2
AQLNIGNVLPVGTMPGIVC* CLEEKPGDR	C114 C114 C114 C114	1.38075	E9PKZ0 P62917 E9PKU4 G3V1A1	2
GEETPVIVGSALC*ALEGRDPE LGLK	C222 C222	1.380574286	P49411 P49411	4
DGSDYEGWC*WPGSAGYPDF TNPTMR	C502 C524 C502 C524	1.379812857	Q14697 Q14697 Q14697 Q14697	3
YLLQYQEPIPC*EQLVTALCDIK	C107 C107 C107 C107 C76 C83 C107 C107 C107 C107 C107 C76 C83 C107 C107 C107 C107 C107 C76 C83 C107	1.379425	P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2	4
AEIPC*EDEQEHEHNGPLDNK	C439 C626 C455 C471 C626 C439 C626 C455 C471 C626 C439 C626 C455 C471 C626 C439 C626 C455 C471 C626	1.379334	Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363	3
VPLASQGLGPGSTVLLVVDKC *DEPLSILVR	C70 C70 C78 C70 C70 C78 C70 C70 C78 C70 C70 C78 C70 C70 C78 C70 C70 C78	1.378227692	A0A096LPJ4 A0A096LNZ9 P05161 A0A096LPJ4 A0A096LNZ9 P05161 A0A096LPJ4 A0A096LNZ9 P05161 A0A096LPJ4 A0A096LNZ9 P05161 A0A096LPJ4 A0A096LNZ9 P05161 A0A096LPJ4 A0A096LNZ9 P05161	4
NLSDLIDLVPSLC*EDLLSSVD QPLK	C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 C36 C65 C36 C24 C62	1.377756429	P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85	4
SGTIC*SSELPGAFAEAGFHLN EHLYNMIIR	C190 C141 C200 C190	1.377612593	A0A0C4DGQ5 A0A075B7C0 K7ELJ7 P04632	4
KAQC*PIVER	C87 C66 C66	1.3773725	M0R0R2 M0R0F0 P46782	3
LIC*CDILDVLDK	C75 C97 C75 C97 C75 C97	1.376581	P62258 P62258 P62258 P62258 P62258 P62258	4
C*KPVPLLELAEGQK	C73 C66 C73 C66 C73 C66 C73 C66	1.375002857	Q8NHV4 Q8NHV4 Q8NHV4 Q8NHV4 Q8NHV4 Q8NHV4 Q8NHV4 Q8NHV4	4
VDLNSNGFIC*DYELHELFFK	C33 C33 C33 C33 C33	1.37432375	P13797 P13797 P13797 P13797 P13797	4

			P20810 E7ES10 P20810 P20810 B7Z574 P20810 P20810 H0Y7F0 H0YD33 H0Y9H6 P20810 E9PCH5 A0A0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 A0A0A0MR45 P20810 E7EQ12 P20810 P20810 P20810 E7ES10 P20810 P20810 D6RC54 B7Z574 P20810 P20810 H0Y7F0 H0YD33 H0Y9H6 P20810 E9PCH5 A0A0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 A0A0A0MR45 P20810 E7EQ12 P20810 P20810 P20810 E7ES10 P20810 P20810 B7Z574 P20810 P20810 H0Y7F0 H0YD33 H0Y9H6 P20810 E9PCH5 A0A0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 A0A0A0MR45 P20810 E7EQ12 P20810 P20810	
SESELIDELSEDFDRSEC*K	C423 C381 C381 C464 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104 C442 C96 C445 C368 C423 C381 C381 C464 C68 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104 C442 C96 C445 C368 C423 C381 C381 C464 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104 C442 C96 C445 C368	1.374257143		3
C*TPACISFGPK	C34 C34 C34 C34 C34 C34 C34	1.373334	P34932 A0A087WTS8 A0A087WYC1 P34932 P34932 A0A087WTS8 A0A087WYC1	4
LMWLFGC*PLLLDDVAR	C66 C66 C66 C66	1.372686154	O15067 O15067 O15067 O15067	4
NWYVQPSC*ATSGDGLYEGLT WLTSNYKS	C155 C155 C155 C155 C155	1.372478	P62330 P62330 P62330 P62330 P62330	4
SLSDC*VNYIVQDSK	C406	1.3708175	O15111	3
HLFC*PDLR	C22 C22 C22 C22 C22 C22 C22 C22 C22	1.370598571	A0A0J9YY83 Q9NUI1 A0A0J9YY83 Q9NUI1 A0A0J9YY83 Q9NUI1	4
LC*SLLDSEYNTCEGAFGAL QK	C134 C142 C134 C142 C134 C142	1.37026	Q92973 Q92973 Q92973 Q92973 Q92973 Q92973	3
VFDPSC*GLPYWNADTDLVS WLSPHDPNSVVTK	C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 C49 C60 C60	1.36935	O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828 O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828 O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828 O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828	3
NDAPPEEAGEGC*VAAILGETE VQQFLR	C57 C57 C57 C57 C57	1.369307143	Q96DC7 Q96DC7 Q96DC7 Q96DC7 Q96DC7	4
ASVGFGGSC*FQK	C179 C276 C209	1.3686875	O60701 O60701 O60701	3
VAFQMTMPC*PNFYILDEPT NHLDMETIEALGR	C622 C628 C622 C628	1.368605	Q9NUQ8 Q9NUQ8 Q9NUQ8 Q9NUQ8	2
ATDYPC*LLILDQNEFETLR	C145 C145 C145 C145	1.36810375	Q9NVG8 Q9NVG8 Q9NVG8 Q9NVG8	4
KPTDGASSNC*VTDISHLVR	C369 C644 C710 C708 C138 C342 C369 C644 C710 C708 C138 C342 C369 C644 C710 C708 C138 C342 C369 C644 C710 C708 C138 C342	1.36766	P49321 P49321 P49321 P49321 H0YDS9 Q5T624 P49321 P49321 P49321 P49321 H0YDS9 Q5T624 P49321 P49321 P49321 P49321 H0YDS9 Q5T624 P49321 P49321 P49321 P49321 H0YDS9 Q5T624	4
GIFPVLCK	C474 C459	1.366327778	P14618 P14618	4

DNEVDFQEYCVFLSCIAMMC* NEFFEGFPDKQPR	C86 C86	1.365854667	P26447 P26447	4
SGIQPLC*PER	C341	1.365715	P42166	2
VPQC*PSGR	C88	1.363935	Q16186	2
VQILPEC*VLPSTMSAVQLESL NK	C188 C187 C184 C184	1.36386	Q96SW2 Q96SW2 J3QT87 J3QT51	2
ADASSTPSFQQAFASSC*TISS NGPGQR	C688 C928 C688 C928 C688 C928	1.363542	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	3
LDVGNFSWGSECC*TR	C72	1.36321	P62241	2
TWYVQATC*ATQGTGLYEGLD WLSNELSKR	C159 C159 C132 C159	1.363148438	P18085 P18085 C9JAK5 P18085	4
NAFAC*FDEEATGTIQEDYLR	C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109	1.362912692	J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950	4
VILITPTPLC*ETAWEEQCIQG CK	C24 C117 C137	1.362167333	Q2TAA2 H7C5G1 Q2TAA2	4
IEEDVVVTDSGIELLTC*VPR	C426 C467 C426 C467	1.360388696	P12955 P12955 P12955 P12955	4
FC*ACPEEAHALELR	C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64	1.359933333	Q9NP81 Q9NP81 M0R1C0 M0R2H5 B4DJM9 M0QWZ7 Q9NP81 Q9NP81 M0R1C0 M0R2H5 B4DJM9 M0QWZ7 Q9NP81 Q9NP81 M0R1C0 M0R2H5 B4DJM9 M0QWZ7	4
FALNNPEMVEGLVLINVNPC*A EGWMDWAASK	C102 C168 C87 C102 C168 C87 C102 C168 C87 C102 C168 C87 C102 C168 C87	1.359792609	Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597	4
ARDC*LIPMGITSENAER	C50 C136 C177 C50 C136 C177 C50 C136 C177 C136 C177	1.358385652	H0Y4D4 C9JDE9 P09110 H0Y4D4 C9JDE9 P09110 H0Y4D4 C9JDE9 P09110 C9JDE9 P09110	4
LLSNMMC*QYR	C156 C160 C160 C156 C160 C160 C156 C160 C160	1.35746	P28062 P28062 P28062 P28062 P28062 P28062	3
C*DQDAQNPLSAGLQGA CLM ETVELLQAK	C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 C240 C245 C124 C242 C240	1.357407143	F8W116 Q13561 H0Y198 Q13561 Q13561 F8W116 Q13561 H0Y198 Q13561 Q13561 F8W116 Q13561 H0Y198 Q13561 Q13561 F8W116 Q13561 H0Y198 Q13561 Q13561 F8W116 Q13561 H0Y198 Q13561 Q13561	4
DVSSLFPDVVNC*MQTDNLEL KK	C57 C57 C57 C57 C57 C57	1.357042	P63010 P63010 A0A087 P63010 P63010 A0A087	3
ATYDKLC*K	C59 C59 C59	1.357015	P62851 P62851 P62851	2
MAAISESNINLC*GSHCGV SIG EDGPSQMALEDLAMFR	C421 C413 C413	1.355184	P29401 P29401 P29401	4
IDATQVEVNPFGETPEGQVVC *FDAK	C255 C255 C255 C255 C255	1.3547	Q96199 Q96199 Q96199 Q96199 E9PDQ8	3
AGKPVIC*ATQMLES MIK	C326 C311	1.35404	P14618 P14618	3
GFEVVMTEPIDEYC*VQQLK	C521 C521 C521	1.353634	P08238 P08238 P08238	4

NFNYHILSPC*DLSNYTDLAMS TVK	C461 C498 C461 C498 C461 C498	1.353590909	G5E9W3 Q9UKF6 G5E9W3 Q9UKF6 G5E9W3 Q9UKF6	4
VNIEGGAIALGHPLGASGC*R	C360 C389 C360 C360 C360	1.351815	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	4
AEVVVQVPYLEAGEAVVYPLQ EAAADGC*R	C1036 C1024 C903 C1047 C655 C1020 C1036 C1024 C903 C1047 C655 C1020 C1036 C1036 C1024 C1047 C1020	1.351785	Q92619 K7ES98 F5H1R4 K7EM85 K7ES92 Q92619 Q92619 K7ES98 F5H1R4 K7EM85 K7ES92 Q92619 Q92619 Q92619 K7ES98 K7EM85 Q92619	4
IGFPETTEEELEEIASENSDC*I FPSAPDVKA	C340 C353 C340 C353 C340 C353 C340 C353 C340 C353 C340 C353 C340 C353 C353	1.351701765	Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4	4
IIVFSAC*R	C89 C91	1.351243333	H0YE29 Q07960	3
DGPC*IYNNLEFGIDLDR	C411 C411	1.35078	Q9UG63 Q9UG63	2
IEC*SDNGDGTCSVSYLPTKP GEYFVNILFEEVHIPGSPFK	C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087	1.35064375	O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369	4
TDFYDQC*NDVGLMAYLGTIT K	C283 C282 C283 C282	1.34848	Q7L5N1 E7EM64 Q7L5N1 E7EM64	2
VTVLTHC*NTGALATAGYGTAL GVIR	C168 C168	1.34752	Q9BV20 Q9BV20	2
SESGGLGVSMVEYVLSSSPG DSC*LR	C270 C234 C234 C234 C251 C234 C270 C234 C234 C234 C251 C234	1.347483333	Q5T1Z8 Q5T1Z4 Q14671 Q14671 H0YEH2 Q14671 Q5T1Z8 Q5T1Z4 Q14671 Q14671 H0YEH2 Q14671	2
YGAVDLLALLAVPDMSSLAC* GYLR	C223 C223 C223 C223	1.347364483	P52292 P52292 P52292 P52292	4
C*GETAFIAPQCEMIPIEWVCR	C81 C81	1.345965556	E9PBS1 P22234	4
GGPPC*KPPAPEDEDEAWR	C425 C437 C437 C437 C437	1.345965	P48634 P48634 P48634 P48634 P48634	2
SEHGPIFFPESGQPEC*LK	C324 C295 C247 C323	1.345096	Q96ME7 Q96ME7 Q96ME7	3
SLHDALC*VLAQTVK	C395 C395 C395 C395	1.3449705	P78371 F8VQ14 P78371 F5GWF6	4
YVDIAIPC*NNK	C163 C168 C163 C163 C168 C163	1.34415	C9J9K3 A0A0C4DG17 P08865 C9J9K3 A0A0C4DG17 P08865	3
SWMEGLTLQDYSEHC*K	C238	1.34274	O00487	3
AFFIESVC*DDPTVVASNIMEV K	C155 C155 C155 C135 C155 C155 C169 C155 C155 C155 C135 C155 C155 C169 C155 C155 C155 C135 C155 C155 C169	1.34184	Q16875 Q5W015 Q16875 F2Z2I2 Q16875 Q16875 Q16875 Q5W015 Q16875 F2Z2I2 Q16875 Q16875 Q16875 Q5W015 Q16875 F2Z2I2 Q16875 Q16875	3
INPIC*NDHYR	C70 C70 C70	1.3408	Q96KB5 Q96KB5 Q96KB5	3
ALVDGPC*TQVR	C42 C42 C42 C42 C42 C42 C42 C42 C42 C42	1.34075	E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914	4
QVVDL*QLADVNNIGK	C414 C445 C414 C445	1.340678	P28838 P28838 P28838 P28838	3
VADSSPFALELLISDDCFVLDN GLC*GK	C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290	1.340473725	P40121 P40121	4

			P40121 P40121 P40121 P40121 P40121 P40121 P40121	
EMSC*IAEDVIIVTSSLTK	C97 C97	1.34004	Q9Y678 Q9Y678	2
FPEELTQTFMSC*NLITGMFQR	C389 C339 C389 C339 C389 C339 C389 C339 C389 C339 C389 C339 C389 C339 C389 C339 C389 C339 C389 C339 C389 C339	1.339468696	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	4
PGHLQEGFGC*VVTNRFDQLF DDESDPFVFLK	C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11	1.338425652	Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51	4
VDVFREDLC*TK	C22 C22 C22 C22	1.337965	Q06323 Q06323 Q06323 Q06323	3
VSC*LGVTDDGMAVATGSWD SFLK	C317 C317 C317 C317 C317 C317	1.337564	P62873 P62879 P62873 P62879 P62879 P62873	3
LRIPDFC*PPAPDQIDR	C67 C67 C67	1.33722	Q9BVJ7 Q9BVJ7 Q9BVJ7	3
TC*NVLVALEQQSPDIAQGVHL DR	C104 C104 C41 C104 C104	1.33685	P31153 P31153 P31153 P31153 P31153	4
VAALTGLPFVTAPNKFEALAA HDALVELSGAMNTTAC*SLMK	C290 C333 C290 C333 C290 C333 C290 C333	1.335514286	P07954 P07954 P07954 P07954 P07954 P07954 P07954 P07954	4
LMEPIYLVEIQC*PEQVVGGIY GVLNR	C751 C751	1.33211	P13639 P13639	4
FSHQGVQLIDFSPC*ER	C384 C384 C384 C384 C384 C384 C384 C384 C384 C384	1.331282	P55884 P55884 P55884 P55884 P55884 P55884 P55884 P55884 P55884 P55884	4
QVQLTC*EVDALKGTNESLE R	C328 C328 C328 C328 C328 C328 C328 C328	1.327334737	B0YJC4 P08670 B0YJC4 P08670 B0YJC4 P08670 B0YJC4 P08670	4
LQSGIC*HLFR	C203 C203 C103 C203	1.327305	P14868 P14868 P14868 P14868	3
MVSDINNAWGC*LEQVEKGYE EWLLNEIR	C370 C370 C370 C370 C370 C370 C370 C370	1.3271125	P12814 P12814 P12814 P12814 P12814 P12814 P12814 P12814	3
QQSACIGGPPNAC*LDQLQN WFTIVAESLQQVR	C255 C257 C255 C255 C257 C255 C255 C257 C255 C255 C257 C255	1.32605375	P42224 J3KPM9 P42224 P42224 J3KPM9 P42224 P42224 J3KPM9 P42224 P42224 J3KPM9 P42224	3
EQSDFC*PWYIGLPFIPYLDNL PNFNR	C414 C413 C414 C413 C414 C413 C414 C413 C414 C413	1.326005714	P15170 P15170 P15170 P15170 P15170 P15170 P15170 P15170 P15170 P15170	4
TTSSANNPNLMYQDEC*DRR DGTVLC*ELINALYPEGQAPVK K	C507 C507 C586 C584 C505	1.325358	Q92841 Q92841 H3BLZ8 Q92841 Q92841	3
VC*NFLASQVPFPSR	C84 C63 C63	1.32509375	P37802 P37802	4
TDIC*QGALGDCWLLAAIASLT LNEEILAR	C214 C214 C214 C205 C214 C205 C214 C205 C214 C205	1.324116471	Q99714 Q99714 Q99714 Q99714 Q99714 Q99714 Q99714 Q99714 Q99714 Q99714	4
IGEIVAEMDVPLHC*R	C98 C98 C20 C98 C98	1.322741818	P17655 P17655 P17655 P17655 P17655	4
AQVCQQAHSFAGMPC*GIM DQFISLMGQK	C49 C49 C49 C49 C36 C49 C49 C49 C49 C49 C212 C182	1.322086667 1.321735833	Q5SRE7 Q5SRE7 Q5SRE7 Q5SRE7 H7C3M4 G5E9M0 Q5SRE7 P51570 P51570	2 4

DC*NGDTPNLSFYR	C87 C87 C35 C87 C87 C87 C35 C87 C87 C35	1.32167625	Q9NZT2 Q9NZT2 A0A0A0MRN5 Q9NZT2 Q9NZT2 A0A087 A0A0A0MRN5 Q9NZT2 Q9NZT2 A0A0A0MRN5	3
FLGPEIFFHPEFANPDFTQPIS EVDVEVIQNC*PIDVR	C307	1.320927143	P61158	4
YVFNLAELAELVPMIYVGIPEC *IK	C416 C295 C173 C357	1.320285556	J3KN59 Q12982 H7C096 Q12982	4
QVLMGYPNPDTC*PEVGFFDV LGNDR	C129 C129	1.319071111	Q9H3P7 Q9H3P7	3
VTETLWFNLDPRC*VEETELQ QQEQHQAWLQSIK	C24 C24 C24 C24 C24 C24 C24	1.31826	G5EA39 F5H6E4 P60006 P60006 F8WDQ6 F5H3R3 F5H2T3	2
ADDTFEALC*IEPFSSPELDP VMKPDQSGSSANEQAVQ	C89 C111 C84 C89 C111 C84 C89 C111 C84	1.31737	Q15370 I3L0M9 B8ZZU8 Q15370 I3L0M9 B8ZZU8 Q15370 I3L0M9 B8ZZU8	3
HTLDGAAC*LLNSNK	C170 C102 C113 C35 C134 C170 C102 C113 C35 C134 C170 C102 C113 C134	1.317105882	S4R3N1 Q9Y3A3 Q9Y3A3 B4DM50 Q9Y3A3 S4R3N1 Q9Y3A3 Q9Y3A3 B4DM50 Q9Y3A3 S4R3N1 Q9Y3A3 Q9Y3A3 Q9Y3A3	4
VSVC*AETYNPDEEEEDTPR	C101 C101	1.31699	P13861 P13861	2
SIKDTIC*NQDER	C509 C462 C456 C509 C462 C456 C509 C462 C456	1.316124	Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4	4
EITSLDTENIDEILNNADVALVN FYADWC*R	C58	1.315232727	Q9BS26	4
SLRDDYEVSC*PELDQLVEAA LAVPGVYGSR	C352 C322	1.3148775	P51570 P51570	3
NYLPAINGIVFLVDC*ADHSR	C102 C102 C59 C102 C102 C59 C102 C102 C59	1.314824545	Q5SQT8 Q9NR31 Q9NR31 Q5SQT8 Q9NR31 Q9NR31 Q5SQT8 Q9NR31 Q9NR31	4
LLAC*IASR	C174	1.314665	P62241	2
QIETGPFLEAVSHLPPFFDC*L GSPVFTPIK	C36 C36 C36 C36 C36 C36	1.314295	F5GZ49 Q9NZD2 F5H0U5 F5GZ49 Q9NZD2 F5H0U5	2
RPDLDC*MAGLR	C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225 C225	1.31228	A8MST6 Q5JTW2 Q5JTW2 Q5JTW2 Q5JTW2 A8MST6 Q5JTW2 Q5JTW2 Q5JTW2 Q5JTW2 A8MST6 Q5JTW2 Q5JTW2 Q5JTW2 Q5JTW2 A8MST6 Q5JTW2 Q5JTW2 Q5JTW2 Q5JTW2	3
C*MQLTDFILK	C54 C54 C54 C54	1.31197	E7EPB3 P50914 E7EPB3 P50914	3
SDFGSC*PPEEQPR	C64 C64	1.31126	Q8WZ82 Q8WZ82	2
YAIC*SALAASALPALVMSK	C125	1.311219643	P36578	4
FNAVLC*SR	C351 C384	1.31101	P50995 P50995	2
SYIEGYVPSQADVAVFEAVSS PPPADLC*HALR	C50 C50 C50 C50 C50 C50 C50 C50 C50	1.31053125	P24534 F2Z2G2 C9JZW3 P24534 F2Z2G2 C9JZW3 P24534 F2Z2G2 C9JZW3	4
FMSVLDTNKDC*EVDFVEYVR	C68	1.3097325	P33764	3
DQVAQLDDIVDISDEISPSVDD LALSIPP*HLTVR	C300 C300 C300 C300	1.308858182	O95273 O95273 O95273 O95273	4
FAC*HSASLTVR	C56 C145	1.308427143	Q15233 Q15233	3
EGGVQLLLTIVDTPGFGDAVD NSNC*WQPVIDYIDSK	C126 C126 C106 C90 C125	1.306767692	Q16181 E7EPK1 E7ES33 G3V1Q4 Q16181	4

LC*AAAASILGKPADR	C38 C24 C38 C24 C24 C24	1.3066275	J3KQ18 P30046 J3KQ18 P30046 B5MC82 A6NHG4	3
EGTQASEGYFSQSQEEFAQ SEELC*AK	C659 C615 C613 C659 C615 C613	1.306282	Q16643 Q16643 Q16643 Q16643 Q16643 Q16643	2
AHQLVLPPC*DVIK	C279 C279 C354 C279 C279 C279 C279 C279 C279 C279	1.30615	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2	4
ELAEITLDDPPNC*SAGPK	C81 C81 C75 C81	1.30613	R4GND1 R4GN77 Q96LR5 Q969T4	2
QYPWGVAEVENGEHC*DFTIL R	C280 C280 C260 C244 C279 C280 C280 C260 C244 C279	1.305688333	Q16181 E7EPK1 E7ES33 G3V1Q4 Q16181 Q16181 E7EPK1 E7ES33 G3V1Q4 Q16181	2
ELHGQNPVVTPC*NK	C159 C159 C159 C159 C159 C159 C159 C159	1.30452	Q16630 F8WJN3 Q16630 Q16630 Q16630 F8WJN3 Q16630 Q16630	2
ILDNTVLPPEVPPFTVFSGC PGLFSGELPEC*TQELMIDVTK	C160	1.303225	Q9BTE1	3
DGVADSTVISSMPC*LLMELR	C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57	1.3031675	Q96B23 A0A087WVF1 K7EQH1 Q96B23 Q96B23 A0A087WVF1 K7EQH1 Q96B23 Q96B23 A0A087WVF1 K7EQH1 Q96B23	3
ITHSPLTIC*FPEYTGANKYDEA ASYIQSK	C271 C287 C271 C250 C287 C235 C271 C287 C271 C250 C287 C235	1.302956667	P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899	3
VPAILMSSMC*ILLDHLGGENY MMR	C320 C320	1.301953333	Q15021 Q15021	2
VTAVIPC*FPYAR	C24 C91 C91 C91 C91 C91 C91	1.301605	P60891 P60891 P11908 P11908 P60891 P11908 P11908	3
NC*LTNFHGMDLTR	C96 C59 C76 C59 C96 C59 C76 C59 C96 C59 C76 C59 C96 C59 C76 C59 C96 C59 C76 C59	1.300520435	P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RAT0 D6RG13 D6RB09	4
GLYGIKDDVFLSVPC*ILGQNGI SDLVK	C293 C322 C293 C322 C293 C322 C293 C322	1.298112857	P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338	4
TWYVQATC*ATQGTGLYDGLD WLSHELK	C159 C159 C159 C159	1.296394286	P84085 P84085 P84085 P84085	4
SSGC*DVNLPGVNVK	C5502	1.294657143	Q09666	3
NWISQLQMHAYC*ENPDIVLC GNK	C123 C123 C123 C123 C123 C123	1.29431	P51159 P51159 H3BN55 P51159 P51159 H3BN55	2
DAWASPC*HSYPLVATR	C374 C374	1.293786667	Q13425 Q13425	3
EKIEAELQDIC*NDVLELLDK	C96 C94 C96 C94	1.293018571	P31946 P31946 P31946 P31946	4
AQNTWGC*GNSLR	C410 C423 C522 C148 C522 C522 C441 C423 C410 C522 C522 C148 C522 C522	1.292156667	P02545 P02545 P02545 A0A0C4DGC5 P02545 P02545 Q5TC18 P02545 P02545 P02545 P02545 A0A0C4DGC5 P02545 P02545	2
IECSDNGDGT*SVSYLPTKP GEYFVNILFEEVHIPGSPFK	C1095 C1095 C1095 C1095 C1095 C1095	1.288912	O75369 O75369 O75369 O75369 O75369 O75369	3
NWYIQATC*ATSGDGLYEGLD WLSNQLR	C159 C159 C159 C159 C159 C159	1.287147778	P84077 P84077 P84077 P84077 P84077 P84077	4

DKEPEVFIGDSLVLQMLHQC* EIWR	C55 C55 C55 C55	1.286769231	Q15102 M0R389 Q15102 M0R389	4
LEGDLTGPSVGVVEVPDVELEC *PDAK	C1900 C1900 C1900 C1900	1.2867268	Q09666 Q09666 Q09666 Q09666	4
LSSQEESIGTLLDAIIC*R	C206 C134 C167 C206 C134 C167	1.28525	Q9Y3C4 Q9Y3C4 Q9Y3C4 Q9Y3C4 Q9Y3C4 Q9Y3C4	4
TNTAVRPYC*FIEFDNFIQR	C111 C111 C111 C111 C111 C111 C111 C111	1.284143333	C9JDJ8 C9JNZ0 Q96IW7 C9JRY4 C9JDJ8 C9JNZ0 Q96IW7 C9JRY4	2
IHFISPNIYCC*GAGTAADTDM TTQLISSNLELHSLSTGR	C87 C87 C87	1.284092	Q99436 Q5TBG5 Q99436	2
C*NYLALVGGGK	C63	1.28401	Q5MNZ6	3
YFNPTGAHASGC*IGEDPQGIP NNLMPYVSQVAIGR	C196 C196	1.28137	Q14376 Q14376	2
AGAVVAVPTDTLYGLACAASC *SAALR	C99 C99 C99 C99	1.2812075	Q86U90 Q86U90 Q86U90 Q86U90	4
ELANSPDC*PQMCAK	C189 C187 C187 C187	1.27977	P48739 P48739 P48739 A0A0A0MSW4	2
AYCHILLGNYC*VAVADAKK	C62 C62	1.278026667	Q9Y2Z0 Q9Y2Z0	2
GTWEELCNSC*EMENEVLK	C652 C652	1.276933333	O95573 O95573	2
NTGIIC*TIGPASR	C49 C49 C49 C49 C49 C49	1.276718	B4DNK4 P14618 P14618 B4DNK4 P14618 P14618	3
VPAFEGDDGFC*VFESNAIAYY VSNEELR	C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68	1.276117143	P26641 P26641	4
EGGQYGLVAAC*AAGGQGH MIVEAYPK	C443 C335 C458 C436 C458 C436 C443 C458 C436	1.2759	F5GZQ3 B5MD38 P55084 P55084 P55084 P55084 F5GZQ3 P55084 P55084	3
TTC*MSSQGSDEQIKR	C22 C22 C7 C22 C22 C22 C22 C7 C22 C22 C22 C22 C7 C22 C22	1.2749575	Q9P0V9 Q9P0V9 B5ME97 E7EW69 Q9P0V9 Q9P0V9 B5ME97 E7EW69 Q9P0V9 Q9P0V9 B5ME97 E7EW69	2
C*LSAAEEK	C145 C207 C170 C170 C154 C170 C170 C145 C207 C170 C170 C154	1.27316	Q5VU61 J3KN67 A0A087WWU8 P06753 Q5HYB6 P06753 P06753 Q5VU61 J3KN67 A0A087WWU8 P06753 Q5HYB6	2
TC*DGVQCAFEELVEK INPSETYPAFC*TTCPSEPGL VGPSVR	C155 C131 C184 C110 C155 C268 C131 C184 C110	1.2729675	Q9NP72 A0A087 Q9NP72 Q5W0J0 Q9NP72 HOY6T8 A0A087 Q9NP72 Q5W0J0	2
LFVSGAC*DASAK	C425 C425	1.27172	Q96GW9 Q96GW9	2
VDVEC*PDVNIEGPEGK	C204 C204 C204	1.27095	P62873 P62873 P62873	2
SDLYSSC*DR	C2806 C2806 C2806 C2806	1.269915909	Q09666 Q09666 Q09666 Q09666	4
IDLGNC*QDEK	C338 C338	1.269303333	Q96E39 Q96E39	2
ELSIHFVPGSC*R	C863 C863 C862 C875 C786 C863 C863 C862 C875 C786	1.268615	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46	2
FSPNSSNPIIVSC*GWDK	C17 C17 C17 C17 C17 C17 C17	1.265195	E5RJR3 Q9NZL9 Q9NZL9 E5RJR3 Q9NZL9 Q9NZL9	2
	C168 C168	1.262465833	P63244 P63244	4

ELEASELDTIC*PK	C229 C229 C229 C229	1.261494	O76003 O76003 O76003 O76003	4
AATGEEVSAEDLGGADLHC*R	C267 C267	1.26073	Q9HCC0 Q9HCC0	2
LDTNSDGQLDFSEFLNLIGGLA MAC*HDSFLK	C91 C91 C91	1.260691852	P31949 P31949 P31949	4
EMASC*ITQR	C114 C114	1.25955	Q969E8 Q969E8	2
GEFYVIEYAAC*DATYNEIVTF ER	C14 C14 C14 C50 C103 C14 C99 C14 C86 C99 C14 C50 C14 C99 C86 C99 C14	1.2592975	C9JY20 C9J5B4 C9IZ22 E9PFF5 C9JAJ4 P51114 P51114 C9JZE0 P51114 E7EU85 E9PFF5 P51114 P51114 P51114 E7EU85	2
GPFVEAEVDPVDLEC*PDAK	C1833 C1833 C1833 C1833 C1833 C1833 C1833 C1833	1.249113684	Q09666 Q09666 Q09666 Q09666 Q09666 Q09666 Q09666 Q09666	4
LTGAGGGGC*GITLLKPGLEQ PEVEATK	C287 C58 C339	1.247315	F5H8H2 A0A0B4J236 Q03426	2
MAYQEYPNSQNWPEDTNFC* FQPEQVVDPIQTDPFK	C126 C143 C126	1.247145714	P27816 E7EVA0 P27816	3
IC*ALDDNVCMAFAGLTADAR	C63 C63 C63	1.246455	O14818 O14818 O14818	2
IEPEPFENC*LLRPGSPAR	C409 C298 C409 C298	1.2459825	P48637 P48637 P48637 P48637	3
YSEEANLIEEC*EQAER	C131 C131	1.24396	Q96HE7 Q96HE7	2
NLNDQVLFIDQGNRPLFEDMT DSDC*R	C70 C74 C70 C74	1.243814	Q14116 Q14116 Q14116 Q14116	3
TFQVLGNLYSEGDC*TYLK	C595 C548 C486 C445	1.24255	Q96RQ3 E9PG35 E9PHF7 F5GYT8	2
TYAIC*GAIR	C56 C56 C56 C56 C56 C56 C56 C56 C56 C56 C56 C56	1.24217	Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220	3
GLAPLHWADDDGNPTEQYPL NPNNGSPGGVAGICSC*DGR	C1287	1.2386675	O15067	3
NMVHPNVICDGC*NGPVVGTR	C131 C131 C131 C154 C131	1.234632	E7EMC7 Q13501 E7EMC7 E3W990 Q13501	3
ICELLPEAAINDVYLAPLLQC*LI EGLSAEPR	C310 C455 C310 C455	1.233976667	Q14974 Q14974 Q14974 Q14974	2
ISEVFDG*WFESEGSMPYAQVH YPFENKR	C416 C526 C526 C416 C526 C526	1.23116375	J3KR24 P41252 A0A0A0 J3KR24 P41252 A0A0A0	3
DRNWYVQPSC*ATSGDGLYE GLTWLTSNYK	C155	1.230372273	P62330	4
C*LHMFLQDEIIDK	C118 C140 C108 C118 C140 C108	1.229685	O60493 O60493 O60493 O60493 O60493 O60493	2
IPC*DSPQSDPVDTPSTK	C1250 C1251 C1250 C1251 C891	1.228335	A0A087WV66 P46013 A0A087WV66 P46013 P46013	2
LHIVQVVC*K	C191 C191 C191	1.225042857	O00299 O00299 O00299	4
MFHPNVYADGSIC*LDILQNR	C88 C88 C13 C88 C55 C88 C87	1.225032857	P49459 A0A0D9SEZ6 P49459 A0A0D9SG71 P63146 H0YA80	2
AFDTAGNGYC*R	C223 C223	1.223002	P49327 P49327	3
VFIMDNC*EELIPEYLNFR	C374 C496	1.220272826	P07900 P07900	4
NC*IVLIDSTPYR	C100 C100 C100 C80 C100 C100 C80	1.21938	P62241 P62241 P62241 Q5JR95 P62241 P62241 Q5JR95	4
HTEVPTGTC*PVDPFEAQWAA LENK	C454 C465 C563 C467 C309 C600 C611 C405 C416 C552	1.218845714	P49757 P49757 P49757 G3V3Z8 P49757 P49757 P49757 P49757 P49757 P49757	4
VQYPQSQAC*K	C633 C633	1.217715	Q14204 Q14204	2
TDVNKIEEFLEEVLC*PPK	C100 C100 C100 C100 C100 C100 C100	1.21541	Q9Y696 Q9Y696 Q9Y696 Q9Y696 Q9Y696 Q9Y696 Q9Y696	4
TC*FETFPDKVAIQLNDTHPAL SIPELMR	C326 C326 C326	1.215318571	P11216 P11216 P11216	4

SQQEIC*EQLNINHMIQR	C79 C79 C79 C79	1.21458	Q14139 Q14139 Q14139 Q14139	2
AGVC*AALAWPALQIAVENG FGGVHSQEK	C17 C17 C17 C17	1.214325714	Q969E8 Q969E8 Q969E8 Q969E8	4
AFGGPGAGC*ISEGR	C24	1.21416	Q9H479	2
IAAYLQSDQFC*K	C208 C208	1.212732	P21266 P21266	2
GFC*HLCDGQEACCVGLEAGI NPTDHLITAYR	C91 C129	1.212525	P08559 P08559	2
VVMALGDYMGASC*HACIGGT NVR	C131 C131	1.211844	P60842 P60842	3
EEEVSC*SGPLSQK	C203 C203 C203	1.21073	F5H0F9	2
MSESPTPC*SGSSFEETEALV NTAAK	C651 C277 C2528 C2573 C2577 C719 C651 C2573 C273 C663 C663 C308 C651 C277 C2528 C2573 C2577 C719 C651 C2573 C273 C663 C663 C308	1.21067	O95359 E7EMZ9 O95359 E9PBC6 O95359 O95359 O95359 O95359 D6RAA5 H0Y911 O95359 E7EMZ9 O95359 E9PBC6 O95359 O95359 O95359 O95359 D6RAA5 H0Y911	2
LLDLVQQSC*NYK	C30 C34 C30 C34 C30 C34 C30 C34	1.208774615	P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1	4
STAPVMDLLGLDAPVAC*SIAN SK	C191 C196 C116 C166 C191 C196 C116 C166 C191 C196 C116 C166	1.206833333	A0A087WV97 Q8WU79 Q8WU79 Q8WU79 A0A087WV97 Q8WU79 Q8WU79 Q8WU79 A0A087WV97 Q8WU79 Q8WU79 Q8WU79	3
LIGPNC*PGVINPGECK	C172 C172	1.206483333	P53597 P53597	2
WHLC*PTLYESR	C263 C222 C264 C263 C222 C264 C263 C222 C264 C263 C222 C264	1.206225	Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3	4
TFC*QLILDPIFK	C290	1.20544	P13639	2
GDLENAFLNLVQC*IQNKPLYF ADR	C280 C262 C280 C262 C280 C262 C280 C262	1.204865652	P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355	4
LGTTAGQMC*SGLPGLSSVDI NNFGDSINESEGIPLKR	C475 C475 C475 C475 C475 C475	1.2037425	A0A087WV66 P46013 A0A087WV66 P46013 A0A087WV66 P46013	3
LDVGNFSWGSEC*CTRK	C71	1.20146	P62241	2
YEIYGDSVDC*LPSCQLEVQLY QK	C285 C285 C285	1.199313333	Q9BZD4 Q9BZD4 Q9BZD4	3
DIC*NDVLSLLEK	C94 C94 C94	1.196295455	P63104	4
KAEEATEAQEVVEATPEGAC* TEPR	C189 C189 C189	1.195835	O75683 O75683 O75683	3
YLEVSEPDIEC*CGALEYYDK	C146 C180 C195 C146 C180 C195	1.19263	O15371 O15371 O15371 O15371 O15371 O15371	2
ISAFGYLEC*SAK	C159 C159 C159 C159 C159 C159 C159 C159 C159	1.19205	P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6	3
TGAVYLC*PLTAHK	C94 C94	1.191406667	P26006 P26006	3
VAVSADPNVPPNVVVTGLTLVC *SSAPGPLELDLTGDLESFK	C79 C79 C79 C79 C79	1.1889275	P52565 P52565 J3KRY1 J3KTF8	4
ADIIHAC*DIVEDAAIAYGYNNI QMTLPK	C263 C362 C362	1.1842775	Q9NSD9 Q9NSD9 Q9NSD9	3
TVEIC*PFSFDSR	C536 C572	1.183272	Q9ULW0 Q9ULW0	2
VQDLFC*SVGLNVNPHFLIM QGR	C132 C132	1.182431429	O95347 O95347	3
C*DENILWLDYK	C152 C137	1.180625	P14618 P14618	3
AALAAC*PSSPFPAMP	C502 C463 C502 C463 C502 C463 C502 C463 C502 C463	1.17934375	Q8N2G8 Q8N2G8 Q8N2G8 Q8N2G8 Q8N2G8 Q8N2G8	4

			Q8N2G8 Q8N2G8 Q8N2G8 Q8N2G8	
EEADQPPSC*GPEDDAQLQLA LSLSR	C205 C205 C205	1.178816	Q9Y6I3 Q9Y6I3 Q9Y6I3	3
ETGANLAIC*QWGFDEANHL LLQNNLPAVR	C302 C264 C281 C302 C264 C281	1.1787625	P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1	4
SC*SGVEFSTSGHAYTDTGK	C36 C36	1.178715	Q9Y277 Q9Y277	2
TDSC*DVNDVCQQVVELLQER	C207	1.17858	O43252	2
LCDYVCDLLLEESNVQPVSTP VTVCGDIHGQFYDLC*ELFR	C99 C62 C99 C62 C99 C62	1.178262	O00743 O00743 O00743 O00743 O00743 O00743	3
YVEPIEDVPC*GNIVGLVGVDQ FLVK	C466 C466 C466 C466 C466 C466	1.17561	P13639 P13639 P13639 P13639 P13639 P13639	4
DLLSDWLDSTLGC*DVTDNSIF SK	C287 C287	1.1742425	P49589 P49589	2
QYDADLEQILIQWITTQC*R	C59 C38 C38 C59 C38 C38 C59 C38 C38 C59 C38 C38	1.1740725	P37802 P37802 P37802 P37802 P37802 P37802 P37802 P37802	2
LNEDMAC*SVAGITSDANVLTN ELR	C74 C74 C74 C74 C43 C50 C74 C74 C74 C74 C74 C43 C50 C74 C74 C74 C74 C74 C43 C50 C74 C74 C74 C74 C74 C43 C50 C74	1.172505556	P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2 P25789 H0YMA1 H0YMZ1 H0YL69 H0YN18 H0YKT8 H0YLC2	4
SENC*GVPEDLLNGLK	C8	1.17222	Q99614	3
LEYC*EALAMLR	C349 C249 C349 C249 C349	1.171032	P14868 P14868 P14868 P14868 P14868	3
VTEPSAPC*QALVSIQDLQATF HGIR	C795 C795 C795	1.170765	Q9UPN7 Q9UPN7 Q9UPN7	4
IC*LAEAFLTADTILNTLQNISE GLVVYPK	C354 C340 C217 C340 C340 C340	1.170765	A0A0A6Y92 P30566 A0A096LNY6 P30566 P30566 P30566	2
GFCHLC*DGQEACCVGLEAGI NPTDHLITAYR	C94 C132 C94 C94 C132 C94 C132 C94 C94 C132	1.16895	P08559 P08559 P08559 P08559 P08559 P08559 P08559 P08559 P08559 P08559	4
STVLSLDWHPNNVLLAAGSC* DFK	C162	1.168323333	O15143	3
C*PASEPGLDATTASESR	C1029 C1029	1.1668275	Q27J81 Q27J81	2
ALADAQIPYSAVDQACVGYVF GDSTC*GQR	C71 C71 C71	1.163651667	P22307 E9PLD1 P22307	3
AAAGELQEDSGLC*VLAR	C172 C172	1.162703333	Q96C19 Q96C19	4
VEQNSEPC*AGSSSEDLQTV FKNESLNAESK	C260	1.162134	Q8N806	4
SECCC*ANPDYGFGEPCQPC PAKNSAEFHGLCSSGVGITVD GR	C729 C730 C697 C697 C729 C730 C697 C697	1.16212	A0A087WYV8 P35556 D6RJI3 P35556 A0A087WYV8 P35556 D6RJI3 P35556	2
C*EGINISGNFYR	C37 C37	1.16186	M0QYS1 M0QYS1	2
SC*FGFEGLLGAEDLSGVSPV VCSK	C165 C165 C165 C165	1.161535	Q96FF9 Q96FF9	2
GNFTLPEVAEC*FDEITYVELQ KEEAQK	C648 C629 C648 C629 C648 C629 C648 C629	1.161433333	Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839	4
AFTEANDGSLC*LAMEYGGEK	C112 C112 C112	1.15735	Q96KB5 Q96KB5 Q96KB5	3
GNEFEDYC*LKR	C102 C102	1.15722	P26196 P26196	4
TPTKPSSLNNQLVSVDC*K	C991 C991	1.15708	Q9NZV1 Q9NZV1	2
ALDVGSGSGILTAC*FAR	C153 C95 C153 C64 C95	1.15589	A0A0A0MRJ6 P22061 H7BY58 C9J0F2 P22061	3
LLAPDC*EIIQEVGK	C215 C215	1.154210476	Q9NQT5 Q9NQT5	4

KHGLEVIYMIPEIDEYC*VQQL K	C529 C651	1.15271	P07900 P07900	2
EGC*TVSPETISLNVK	C393 C394 C376 C430 C412 C375	1.14928	E5KJL6 E5KJL9 E5KJL1 E5KJL5 O60313 O60313	2
SLPSAVYC*IEDK	C674 C674	1.14727	O43290 O43290	2
GEELSC*EER	C38 C38	1.147068125	P31947 P31947	3
AIVDALPPPC*ESACTVPTDVD K	C270	1.14408	Q15181	2
VC*TLAIIDPGDSDIIR	C92 C92 C92 C92 C92 C92 C92 C92 C92 C92 C92 C92	1.143900667	P62888 E5RI99 P62888 E5RI99 P62888 E5RI99 P62888 E5RI99 P62888 E5RI99 P62888 E5RI99	4
IC*KPLHELMQILLEETPEEK	C206 C206	1.141306667	P68402 P68402	2
SSWYVDASDVLTTEDPQC*PQ PLEGAWPVTLGDAQALKPLK	C1093 C1093	1.1392625	Q27J81 Q27J81	2
GFLFGPSLAQELGLGC*VLIR	C83 C83 C83 C83 C83 C83 C83 C83 C83	1.13731	H3BQF1 H3BQF1 P07741 P07741 H3BQF1 H3BQF1 P07741 P07741 P07741	3
AHTVLAASC*AR	C104 C104	1.136765	Q8WUY1 Q8WUY1	2
KAC*ADATLSQITNNIDPVGR	C25 C25 C25	1.134918571	P62873 P62873 P62873	3
HLYTLGGDIINALC*FSPNR	C240 C240	1.134233333	P63244 P63244	4
IC*ELLPEAAINDVYLAPLLQCLI EGLSAEPR	C291 C436	1.133763333	Q14974 Q14974	2
AFLDNPGLSELG*GTLSR	C204 C297 C272 C204 C297 C272 C204 C297 C272	1.129225	B4E1N1 B4E1N1 B4E1N1	3
IADISQVYTQNAEMRPLGC*C MILIGIDEEQGPQVYK	C117 C136 C57 C136	1.12815	P60900 P60900 P60900 G3V295	2
DTFVKLDNWLNELEYC*TR	C110 C86 C139 C65 C110 C223 C86 C139 C65	1.127975714	Q9NP72 A0A087 Q9NP72 Q5W0J0 Q9NP72 HOY6T8 A0A087 Q9NP72 Q5W0J0	3
AYHEQLSVAEITSSC*FEPNSQ MVK	C295 C319 C229 C295 C319 C229	1.125173333	Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65	2
PSWADQVEEEGEDDKC*VTS ELLK	C25 C25 C25	1.124313333	K7ENA8 O75821 O75821	3
HDDSSDNFC*EADDIQSPEAE YVDLLLNER	C166 C166 C166 C166 C166 C166 C166 C166 C166	1.120451429	Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7	4
MTGESEC*LNPSTQSR	C1181 C1212 C1181 C1212	1.119653333	Q9H2G2 Q9H2G2 Q9H2G2 Q9H2G2	3
VIEINPYLLGTMAGGAADC*SF WER	C111 C111 C60	1.116848889	P28074 P28074 HOYJM8	4
SAYC*PYSHFPGAALLTQEG R	C31 C31	1.11623	P32320 P32320	2
NC*MTDLLAK	C32 C18 C18 C18 C18 C32 C18 C18 C18 C18 C32 C18 C18 C18 C18	1.11291	HOY8J8 Q00765 Q00765 B7Z510 B7Z332 HOY8J8 Q00765 Q00765 B7Z510 B7Z332 HOY8J8 Q00765 Q00765 B7Z510 B7Z332	3
YVC*EGPSHGGLPGASSEK	C70 C61 C62 C62 C70 C61 C62 C62	1.11198	D6RH30 P19838 D6RC45 P19838 D6RH30 P19838 D6RC45 P19838	2
VPTANVSVDLTC*R	C247 C247 C247 C247 C247	1.11161	P04406 P04406 P04406 P04406 P04406	4
LSLLGGALPMFELVELQPSHL AC*PDVNLNLSLSSDVER	C361 C361	1.110666667	Q9Y4P1 Q9Y4P1	2
GC*TATLGNFAK	C229 C171 C229 C229 C229 C229 C229	1.109673333	P15880 E9PQD7 P15880 P15880 P15880 P15880 P15880	4
FTLDC*THPVEDGIMDAANFE QFLQER	C25 C25 C25	1.109556	P35268 P35268 P35268	4

ESESCDC*LQGFQLTHSLGGG TGSGMGTLLISK	C129 C129	1.109246667	Q9BVA1 Q13885	3
LLVLEAFQVSHPC*R	C178 C206 C191 C205 C163 C178 C206 C191 C205 C163 C178 C206 C191 C205	1.107854	G3V267 G3V4T6 G3V5T0 A0A0C4DFM0 A0A0A0MR33 G3V267 G3V4T6 G3V5T0 A0A0C4DFM0 A0A0A0MR33 G3V267 G3V4T6 G3V5T0 A0A0C4DFM0	3
NGQVCFSTQDHKPC*NPR	C172 C172 C172 C172 C172 C172 C172 C172 C172 C172 C172	1.107686667	C9JIR6 O75688 O75688 O75688 B8ZZF0 O75688 C9JIR6 O75688 O75688 O75688 O75688	2
GFGFVC*FSSPEEATK	C339 C339 C314 C339 C307 C339	1.105045	Q13310 Q13310 A0A087WTT1 P11940 E7ERJ7 P11940	3
IC*DPYAWLEDPDSEQTK	C25 C25	1.103923333	P48147 P48147	2
TAGQPEGGPGADFGQSC*FP AEAGR	C302 C258 C254 C302 C258 C254	1.103325	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	2
TLQNTMINLGLQNAC*DEAIYQ LGLDIEELEIEEDAGLNGGL GR	C109 C109	1.097825	P06737 E9PK47	2
FNAHGDANTIVC*NSK	C61	1.096688333	P09382	3
EITAIESSVPC*QLLESVLQELK	C704 C645 C704	1.096583333	O75694 O75694 E9PF10	3
YGIIC*MEDLIHEIYTVGKR	C186 C146 C186 C146 C186 C146	1.095449	P18124 A8MUD9 P18124 A8MUD9 P18124 A8MUD9	4
FC*DNVWTFVLNDVEFR	C68 C68 C68 C68 C68 C33 C68 C33 C68 C33 C68 C33 C68 C33 C68	1.094018571	P52657 P52657 P52657 P52657 P52657 A0A0B4J1Z5 P52657 A0A0B4J1Z5 P52657 A0A0B4J1Z5 P52657 A0A0B4J1Z5 P52657 A0A0B4J1Z5 P52657	4
ALNALC*DGLIDELNQALK	C62 C62 C62 C62	1.09314	P30084 P30084 P30084 P30084	4
VETELQGV*DTVLGLLDSHLI K	C96 C96	1.090894	P31947 P31947	3
TAVLDC*TAPGLHIAVR	C301 C301 C114 C468 C301 C301 C114 C468	1.089385	Q5D0E6 C9JJG6 H7C0T8 Q5D0E6 Q5D0E6 C9JJG6 H7C0T8 Q5D0E6	2
IEGC*IIGFDEYMNVLDDAEEI HSK	C6 C46 C6 C46	1.089156667	A6NHK2 P62304 A6NHK2 P62304	2
TAFASSDC*SAAPLEMMENFP KPLSENELLELFK	C102 C91 C102 C91 C102 C91 C102 C91	1.08705	Q9NSV4 Q9NSV4 Q9NSV4 Q9NSV4 Q9NSV4 Q9NSV4 Q9NSV4 Q9NSV4	2
C*EEETPSLLWGLDPVFLAFAK	C8 C8 C8 C8	1.084	Q9H668 Q9H668 Q9H668 Q9H668	4
MLNYSAPSAGGC*LLDR	C40 C34 C12 C103	1.081835	G3V2P5 Q07352 G3V2D5 G3V515	4
ITSC*IFQLLQEAGIK	C63 C63 C63 C63 C63	1.080923333	E9PBS1 P22234 P22234 P22234 P22234	3
LNPPAQLPNSEGLC*EFLEYVA ESLEPPSPFELLEPTSGGFL R	C208 C182 C208 C182	1.0802725	Q66K74 Q66K74 Q66K74 Q66K74	3
LILADALC*YAHTFNPK	C345 C376 C345 C376 C345 C376 C345 C376	1.078	P28838 P28838 P28838 P28838 P28838 P28838 P28838 P28838	4
GC*GTVLLSGPR	C134 C134 C105 C136 C113 C134 C134 C105 C136 C113	1.077077143	Q07020 G3V203 Q07020 J3QQ67 H0YHA7 Q07020 G3V203 Q07020 J3QQ67 H0YHA7	4
VPIPC*YLIALVVGALRESR	C200 C200 C200 C176 C176 C200	1.07578	P09960 P09960 P09960 P09960 P09960 P09960	2

TVQTIAC*IANFFNQVLVLR	C242 C242 C242	1.06932	Q29RF7 Q29RF7 Q29RF7	3
ANC*IDSTASAEAVFASEVKK	C268 C244 C183 C206 C268 C244 C183 C206	1.069318889	P22087 M0R2Q4 M0R299 P22087 M0R2Q4 M0R299	4
GLGTDEDSLIEIIC*SR	C151 C133 C151 C133 C151 C133 C151 C133 C151 C133 C151 C133	1.067772609	P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355	4
NTPLC*DSFVFR	C429 C429	1.066133333	O95573 O95573	2
YQAEINDLENLGEMSGTC*G QVWK	C174 C131 C147 C174 C131 C147 C131	1.0587	O14733 O14733 O14733 O14733 O14733 O14733 O14733	3
IC*PVETLVEEAIQCAEK	C213 C213 C213	1.055774	P30084 P30084 P30084	4
GLGC*QTLGPHNPTPPSLDM FAEELAELEELETPTPTQR	C234 C234 C234 C234	1.05424	O95400 O95400 O95400 O95400	4
TGC*VDLTITNLLEGAVAFMPE DITK	C391 C325 C325 C391 C325 C325 C391 C325 C325 C391 C325 C325 C391 C325 C325 C391 C325 C325 C391 C325 C325 C391 C325 C325	1.051231667	Q9Y679 Q9Y679	4
TEGGGSEAPLC*PGPPAGEEP AISEAAPEAGAPTSASGLNGH PTLSGGGDQR	C925 C2243 C1098 C925 C2243 C1098 C925 C2243 C1098 C925 C2243 C1098	1.050448333	P27816 E7EVA0 P27816 P27816 E7EVA0 P27816 P27816 E7EVA0 P27816 P27816 E7EVA0 P27816	4
DVAWAPSIGLPTSTIASC*SQD GR	C237 C280 C220 C220 C234 C237 C280 C220 C220 C234	1.048465	A0A0C4DFR6 P55735 P55735 P55735 A0A0C4DFR6 P55735 P55735 P55735	2
APAALPALC*DLLASAADPQIR	C42 C42 C42 C42 C42	1.048385	H0YN14	2
EMQNLSFQDC*YSSK	C111 C111	1.0452875	P30084 P30084	2
AMELLSAC*QGPAR	C104 C91	1.04497	O60551 Q5VUC6	2
NALANPLYC*PDYR	C192 C192 C192 C192 C192 C192	1.04306	H3BSJ9 P22695 H3BRG4 H3BSJ9 P22695 H3BRG4	2
EAVFPFQPGSVAEVC*ITFDQA NLTVK	C89 C89 C89 C89 C89 C89 C89 C89 C89 C89 C89 C89 C89 C89 C89	1.040550667	P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382	4
IIMC*AWNPR	C180	1.039803333	P04818	2
VC*ATLPSTVAVTSVCWSPK	C186 C186 C186 C186 C186 C186 C186 C186 C186 C186	1.034993333	P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658	2
ANASIC*FAVPDPLMPDPSKQ PK	C106 C81 C95 C106 C81 C95 C106 C81 C95	1.0343775	O75569 O75569 O75569 O75569 O75569 O75569 O75569 O75569 O75569	3
ALAPLLAFVTKPNSALESC*S FAR	C573 C573	1.03346	P46060 P46060	3
IDILINC*AAGNFLCPAGALSFN AFK	C122 C113 C101	1.03138	A0A0J9YY83 Q9NUI1	2
LQEALDAEMLEDEAGGGGAG PGGAC*K	C57 C57 C57 C57	1.03009	H3BQZ7 Q1KMD3 H3BQZ7 Q1KMD3	3
SPGVVISDDEPGYDLDFC*IP NHYAEDLER	C23 C23 C23 C23	1.018317778	P00492 P00492 P00492 P00492	4
STLTDSLVC*K	C41 C41 C41 C41	1.018211667	P13639 P13639 P13639 P13639	4
IIDLEEADEIEDIQEITVLSQ C*DSSYVTK	C77 C77 C77	1.017294286	Q9P289 B4E0Y9 Q9P289	4
LPQQSYNFDPTC*DESVDPF K	C452 C2329 C102 C113 C469 C78 C2374 C2378 C520 C452 C2374 C78 C452 C452 C452 C78	1.0171025	O95359 E7EMZ9 H0YA73 H0Y911 E9PGB3 O95359 E9PBC6 O95359 O95359	2

	C2329 C2374 C2378 C520 C452 C2374 C78 C452 C452 C113		O95359 O95359 D6RAA5 O95359 E7EMZ9 O95359 E9PBC6 O95359 O95359 O95359 O95359 D6RAA5 H0Y911	
LTAGEAC*AQGLVTEVFPDST FQK	C282 C312 C277 C282 C312 C277	1.016373333	A0A0C4DGA2 O75521 O75521 A0A0C4DGA2 O75521 O75521	2
DEFTNTC*PSDKEVEIAYSDVA K	C234 C234	1.01507	Q9Y696 Q9Y696	2
FC*NIMGSSNGVDQEHSNVV K	C150 C150	1.014928889	Q9NYL9 Q9NYL9	4
TAFLAEDFNPEEINLDC*TNPR	C180 C180	1.012115	Q5HYI8 Q5HYI8	2
EHSIEDLILLEEC*DANIR	C421 C251 C362 C421 C251 C362 C421 C251 C362	1.00926	Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4	3
TDDYLDQPC*YETINR	C202 C202	1.008251667	P50395 P50395	4
DLTTAGAVTQC*YR	C109 C109	1.00669	M0R117 Q02543	2
APPPSLTDC*IGTVDSR	C20 C20 C20 C20 C20 C20	1.006491429	Q9NZZ3 Q9NZZ3 Q9NZZ3 Q9NZZ3 Q9NZZ3 Q9NZZ3	3
GLC*ESVVEADLVEALEK	C79 C84 C84 C84 C79 C84	1.0024	Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3	4
TGIEQGS DAGYLC*ESQK	C322 C322	0.999635	P40939 P40939	2
ESESC*DCLQGFQLTHSLGGG TGSGMGTLISK	C127 C127 C127 C127 C127 C127	0.99875	Q9BVA1 Q13885 Q9BVA1 Q13885 Q9BVA1 Q13885	3
TFVSGAC*DASIK	C204 C204 C204 C204 C204	0.99857	P62879 P62879 C9JIS1 P62879	3
QAFTDVATGSLGQGLAAC*G MAYTGK	C133 C133 C133 C133	0.997483333	P29401 P29401 P29401 P29401	2
SLGTPEDGMAVC*MFMQNTLT RFMSR	C52	0.99607	H0Y525	3
EGYTSFWNDC*ISSGLR	C84 C70	0.993955	Q9H4A6 Q9H4A5	2
YC*FPNYVGR	C34 C34	0.9844675	P42025 P61163	3
AQLNIGNVLPVGTMPGIVC C*LEEKPGDR	C115 C115 C115 C115	0.980965	E9PKZ0 P62917 E9PKU4 G3V1A1	2
LLDEYNVTPSPPGTVLTSALSP VIC*GPNR	C2085 C2085	0.979605	Q04721 Q04721	2
QAHLCVLASNC*DEPMYVK	C56 C56 C56	0.977351429	P25398 P25398 P25398	3
IDILINCAAGNFLC*PAGALSFN AFK	C129 C120 C108 C129 C120 C108 C129 C120 C108 C129 C120 C108 C129 C120 C108	0.97612375	A0A0J9YY83 Q9NUI1 A0A0J9YY83 Q9NUI1 A0A0J9YY83 Q9NUI1 A0A0J9YY83 Q9NUI1 A0A0J9YY83 Q9NUI1	4
FSFQC*PGR	C285 C346 C377 C285 C346 C377	0.973585	Q13418 Q13418 A0A0A0MTH3 Q13418 Q13418 A0A0A0MTH3	2
LLYEALVDC*K	C175 C175 C175	0.966692	Q7L2H7 Q7L2H7 Q7L2H7	3
TPSYSISSTLNPQAPEFILGC*T ASK	C142 C98 C94 C142 C98 C94 C142 C98 C94	0.9565425	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	3
AHVPC*FDASK	C1157 C1157 C1130	0.95531	P21333 P21333 Q60FE5	2
ESSMGDPMEALALC*SGSFP TDK	C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981 C928 C917 C981 C981	0.953234444	E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4	3

			E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4 E7ESG2 Q9HAW4 Q9HAW4 Q9HAW4	
IC*DDELILIK	C357	0.942726667	P17987	3
TVPFC*STFAAFFTR	C394 C386 C394 C386 C394 C386 C386 C394 C386	0.941168571	P29401 P29401 P29401 P29401 P29401 P29401 P29401 P29401 P29401	4
YYRPTEVDFLQGDC*TK	C306 C336 C306 C336	0.93837	O60547 O60547 O60547 O60547	2
NPSTVCLC*PEQPTCSNADSR	C44 C44 C44 C44	0.93442	Q9H7E9 Q9H7E9 Q9H7E9 Q9H7E9	2
YASPEMC*FVFSR	C27 C27 C27 C27	0.93321	P30566 P30566 P30566 P30566	2
FQDTSQYVC*AELQALEQEQR	C1364 C1364	0.931755	Q8N3D4 Q8N3D4	2
GEHGFIC*R	C397 C119 C119 C119	0.93095	Q16658 A0A0A0MSB2 C9JFC0 C9JPH9	2
VGLPIGQGGFGC*IYLADMNS SESVGSDAPCVVK	C50	0.9292875	Q99986	4
EFCENLSADC*R	C317 C317 C317	0.92391	P30153 P30153 P30153	3
AQDIEAGDGTTSVVIAGSLLD SC*TK	C120 C90 C120 C90	0.92275	P50991 P50991 P50991 P50991	2
LSALGNVTTTC*NDYVALVHPDL DRETEEILADV LK	C110 C110	0.920475	P56537 P56537	2
SIC*TTVLELLDKYLIANATNPE SK	C94 C94	0.917615455	P27348 P27348	4
VC*PPHMLPEDGANLSSAR	C209 C41 C158 C108 C29 C209 C41 C158 C108 C29 C209 C41 C158 C108 C29 C209 C41 C158 C108 C29	0.911764	Q9GZY8 H7C433 Q9GZY8 A0A0A0MS29 Q9GZY8 H7C433 Q9GZY8 A0A0A0MS29 Q9GZY8 H7C433 Q9GZY8 A0A0A0MS29 Q9GZY8 H7C433 Q9GZY8 A0A0A0MS29	4
AC*TAQSLGNLLDMMYREPAR	C65 C49 C87 C49 C87 C65 C49 C87 C49 C87	0.905993333	Q16854 Q16854 Q16854 Q16854 Q16854 Q16854 Q16854 Q16854 Q16854 Q16854	3
DSC*SCLTAAEVHPAGR	C843 C852 C584	0.903285	P30530 P30530 M0R0W6	2
EIC*CYSISCK	C158 C158	0.898105	Q9NVJ2 Q9NVJ2	2
GRLCGDGTGAC*YLLPVFDTV FIR	C72 C71	0.89593	Q8N8A8 A0A0A0MR76	3
EDPTVSALLTSEKDWQGFLEL YLQNSPEAC*DYGL	C209 C237	0.894716471	P78417 P78417	4
IVDAVIQEHQPSVLLLELGAYC* GYSVR	C119 C69	0.888914286	P21964 P21964	2
ILLNACC*PGWVR	C227 C227	0.888485	P16152 P16152	2
C*MPTFQFFK	C73 C73	0.885344375	P10599 P10599	4
C*ATSKPAFFAEK	C270	0.88445	P04083	2
YLEVSEPQDIECC*GALEYDYK HLGGIPWTYAEDAVPTLTPC* R	C147 C181 C196 C268 C268 C268	0.88336 0.87797	O15371 O15371 O15371 P31930 P31930 P31930	2 3
GTGQPGSRPTWPSQC*LEEL VQELAR	C541 C541 C472 C541 C541	0.86683	Q2M3G4 Q2M3G4 A6NN40 Q2M3G4 Q2M3G4	2
LLEC*PHLNVR	C708 C708 C708 C708 C708 C708 C708	0.866496667	H0YN14	3
AC*GNFGIPCELR	C288 C288 C288 C288	0.8612175	E9PBS1 P22234 E9PBS1 P22234	2
VTVAGLAGKDPVQC*SR	C46 C46 C46 C46 C46 C46	0.858822	Q99497 K7ELW0 Q99497 K7ELW0 Q99497 K7ELW0	3

NSFYMGTC*QDEPEQLDDWN R	C1891 C1891 C1907 C771 C1893 C1891	0.850115	A0A087WY61 A0A087WY61 Q14980 Q14980 Q14980 A0A087WY61	3
NVC*LPPEMEVALTEDQVPAL K	C535 C552 C535 C535 C552 C535 C535 C552 C535	0.848236667	P27816 E7EVA0 P27816 P27816 E7EVA0 P27816 P27816 E7EVA0 P27816	3
NC*TAGAVYTYHEK	C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8	0.83631	A0A075B6F9 M0R1K2 M0R3B2 Q9Y314 M0R1T7 A0A075B6F9 M0R1K2 M0R3B2 Q9Y314 M0R1T7	2
GVLlyGPPGC*GK	C137 C137	0.8248875	Q8NBU5 Q8NBU5	3
NFYGGNGIVGAQVPLGAGIAL AC*K	C181 C219 C181 C219	0.8244	P08559 P08559 P08559 P08559	2
GPAVGIDLGTTYSC*VGVFQH GK	C17 C17 C17 C17 C17 C17 C17	0.820396667	P11142 P11142 E9PKE3 P11142 P11142 E9PNE6 E9PKE3	2
VDSTTC*LFPVEEK	C246 C264 C246 C264	0.81928	Q06210 Q06210 Q06210 Q06210	2
INALTAASEAAC*LIVSVDETIK NPR	C511	0.818935	Q99832	2
FC*FTPHTTEEGCLSER	C1118 C1118 C1118	0.806978	P49327 P49327 P49327	3
DYLLC*DYNR	C62 C91 C62 C50 C88 C62 C91 C62 C50 C88	0.80024	P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85	2
MAC*PLDQAIGLLVAIFHK	C3 C3 C3 C3	0.79632	P06703 P06703 P06703 R4GN98	2
QSSANLLC*FAPDLIINEQR	C525 C537 C287 C622 C307 C596 C623 C533 C596 C292 C525 C537 C287 C622 C307 C596 C623 C533 C596 C292	0.79513	P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150	2
KITIADC*GQLE	C161	0.79023	P62937	2
C*NENYTTDFINLYSEEGK	C631 C702 C631 C600 C702	0.783225	P08237 P08237 P08237 P08237 P08237	2
ISDLEIC*ADEFPGSSATYR	C35 C106 C171 C171 C106 C35 C106 C171 C171 C106	0.778554	Q961Z6 A0A087WW35 Q6P1Q9 Q961Z6 Q6P1Q9 Q961Z6 A0A087WW35 Q6P1Q9 Q961Z6 Q6P1Q9	2
GNIPAESYFFIDILLDIRDEIA GC*IEK	C274 C211 C211 C274 C211 C211	0.77704	P48556 K7EJR3 R4GMR5 P48556 K7EJR3 R4GMR5	4
VGVDYEGGGC*R	C680 C727 C680 C727	0.77581	Q02809 Q02809 Q02809 Q02809	2
C*GVPDVAQFVLTEGNPR	C92 C92 C92	0.7685025	P03956 P03956 P03956	3
LASGC*DGSEIPDEVK	C525 C506 C525 C506	0.762816667	Q9UEW8 Q9UEW8 Q9UEW8 Q9UEW8	2
TGNGPMSVC*GR	C499 C490 C493 C574 C491 C499 C490 C493 C574 C491	0.7589	O95793 A0A087 O95793 O95793 Q5JW30 O95793 A0A087 O95793 O95793 Q5JW30	2
LESLQSMEMAHSGSLRDEL *LDFPCDSPEK	C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270	0.755592857	B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86	3

	C388 C183 C259 C389 C394 C386 C321 C270			
NAEDC*LYELPENIR	C145 C70	0.754051667	Q9NZ63 A0A087	2
YEAAFPFLSPC*GR	C143 C98 C143 C98 C143 C98	0.750379167	H0YF29 H0YF29 H0YF29	4
GC*AFVTFTR	C150 C177 C132 C149 C150 C150 C176 C150 C177 C132 C149 C150 C150 C176 C150 C177 C132 C149 C150 C150 C176	0.741811667	Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879 Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879 Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879	3
EFC*SYLQYLEYLSQNRPPPN AYELFAK	C278 C278 C234 C278 C234	0.735145	O14744 O14744 O14744 O14744 O14744	3
VSAAALAVILIATALC*APASAS PYSSDTPC*CFAYIARPLPR	C18 C33 C18 C33 C18 C33 C18 C33 C18 C33 C18 C33	0.729613333	P13501 D0EI67 P13501 D0EI67 P13501 D0EI67	3
ATVAPEDVSEVIFGHVLAAGC* GQNPVR	C65 C94 C65 C94 C65 C65 C65 C65 C65	0.728939655	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	4
EGTDSSQGIPQLVSNISAC*QV IAEAVR	C29 C29 C29 C29 C29 C29	0.71966	Q99832 Q99832 Q99832 Q99832 Q99832 Q99832	4
VMAEANHFIDLSQIPC*NGK	C610 C620	0.719235	O15294 O15294	2
DLGGIVLANACGPC*IGQWDR K	C451 C476 C451 C476 C451 C476	0.70951	Q99798 A2A274 Q99798 A2A274 Q99798 A2A274	4
NHLLPDIVTC*VQSSR	C184 C184 C184	0.70832	Q9BSD7 Q9BSD7 Q9BSD7	4
GEASEDL*EMALDPELLLRD DGEEEFAGAK	C319 C336 C644 C644	0.704148	G3V119 H0YB24 Q8N163 Q8N163	3
KEC*ENCDCLQGFLTHSLGG GTGSGMGTLISK	C471 C124	0.6956225	A0A0B4J269 Q13509	3
MAAISESNINLC*GSHC*GVSIG EDGPSQMALEDLAMFR	C421 C425 C413 C417	0.691955714	P29401 P29401	2
AC*LIFDEIDAIGGAR	C270 C133	0.685872857	P35998 P35998	3
TIC*AILENYQTEK	C438 C460	0.679723333	P49591 Q5T5C7	2
ALLVTASQC*QQPAENKLSDLL APISEKIK	C93 C93 C93 C92 C93 C93 C93 C93 C92 C93	0.674508333	Q5T0R3 Q5T0R6 Q5T0R4 Q01518 Q5T0R1 Q5T0R7 Q5T0R5 Q5T0R2 Q5T0R9 Q01518	2
LC*EPEVLNSLEETYSPPFR	C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261	0.669197143	G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7	4
FSDCWNTGYSYDC*VCSPGY EPVSGAK	C91 C91 C91 C91 C91 C91	0.66485	P48960 P48960 P48960 P48960 P48960 P48960	2

NLAVAMC*SR	C55 C55 C43 C55 C55 C55 C55 C55 C55 C43 C55 C55 C55 C55	0.660245	E2QRC7 Q5JS54 H7C465 Q5JS54 D6REN3 D6RB92 Q5JS54 E2QRC7 Q5JS54 H7C465 Q5JS54 D6REN3 D6RB92 Q5JS54	2
LFNC*SASLDWPR	C439 C397 C456 C439 C397 C456	0.656885	Q9Y4W2 Q9Y4W2 Q9Y4W2 Q9Y4W2 Q9Y4W2 Q9Y4W2	2
NVGC*LQEALQLATSFAQLR	C971 C947 C971 C947	0.655415	P49588 P49588 P49588 P49588	2
TDPSEQVEGNC*EIVNELIAAS TQK	C612 C612 C612 C612	0.6434175	Q8NEM2 Q8NEM2 Q8NEM2 Q8NEM2	4
MQPDQQVVINC*AIVR	C64 C64	0.64161	P50552 P50552	3
AAQVALLYLQELAEELSTALPA PVSC*PEGPK	C212 C212 C212 C212 C212 C212 C212 C212 C212 C212 C212 C212 C212 C212 C212	0.637846	Q8WUA4 Q8WUA4 A0A087WZD8 Q8WUA4 Q8WUA4 A0A087WZD8 Q8WUA4 Q8WUA4 A0A087WZD8 Q8WUA4 Q8WUA4 A0A087WZD8 Q8WUA4 Q8WUA4 A0A087WZD8	3
DTQTSITDSC*AVYR	C100 C100 C100	0.618623333	Q9Y5M8 Q9Y5M8 Q9Y5M8	3
ERPC*SAIYTPPEPSQR	C1732 C1723 C1732 C1756 C1732 C1723 C1732 C1756 C1732 C1723 C1184 C1732	0.617523333	Q8N110 Q8N110 Q8N110 H0Y599 Q8N110 Q8N110 Q8N110 H0Y599 Q8N110 Q8N110 H0Y7H7 Q8N110	3
TAC*NVEEFINTAK	C154 C154 C89	0.61361	Q5HY15 Q8WUD1 Q8WUD1	2
C*HDFQCALLANLFASEGQPG K	C149 C130 C130 C38 C38 C149 C130 C130 C149 C38 C38	0.609535	Q9H0W9 Q9H0W9 E9PQS1 Q9H0W9 E9PJU8 Q9H0W9 Q9H0W9 E9PQS1 Q9H0W9 Q9H0W9 E9PJU8	2
AGHVC*TVQFLISK	C644 C529 C531 C644 C644 C644 C644 C644 C644	0.606675	O75179 H0YM23 O75179 O75179 O75179 O75179 O75179 O75179 O75179	2
DNMAQEGVILDDVDSSVC*R VVVVDLLATGGTMMNAAC*EL LGR	C96 C184 C96 C184 C140 C140	0.60023 0.59843	S4R338 Q9BV86 S4R338 Q9BV86 P07741 P07741	2 2
AAC*LESAQEPAGAWGNK	C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53	0.590876667	C9JEJ8 C9JHS7 C9JZ18 C9JHN6 C9JBS3 A0A024R4E5 C9JES8 C9JT62 A0A0U1RV16 C9JIZ1 C9JK79 C9J5E5 C9JHZ8	2
QCPALEVTWPEVEVPLNGTLS LSC*VAC*SR	C86 C89 C86 C89 C86 C89 C86 C89 C86 C89 C86 C89	0.582165	O95998 O95998 G3V1C5 O95998 O95998 G3V1C5	2
VLSEC*SPLMNDIFNK	C623	0.57795	P53618	2
LFTEYPC*GSGNVYAGVLAVA R	C280 C280	0.56403	Q8IU81 Q8IU81	2
EGILNDDIYC*PPETAVLLASYA VQSK	C117 C117 C117 C117 C117 C117	0.558575556	P26038 P26038 P26038 P26038 P26038 P26038	4
IC*FLSQEENELGK	C73 C84 C85 C85	0.55572	E9PDL4 Q05084 Q05084 Q05084	2
LEAIETQDPSLGC*GLPLNCTPI K	C172 C113 C172 C113 C172 C113 C172 C113	0.54411	Q9NVP2 K7ES22 Q9NVP2 K7ES22 Q9NVP2 K7ES22 Q9NVP2 K7ES22	4
PLGIC*LIIDCIGNETENAHSWIF TLNSMATCMIGTAEFLPR	C254 C254	0.51424	O15519 O15519	2
MSVIEEGDC*KR	C437 C437	0.514013333	P11216 P11216	2

DAFEHIVTQFSSVPVSVVSDS YDIYNAC*EK	C287 C287 C287 C287 C287 C287 C287 C287 C287 C287 C287 C287	0.512325882	P43490 P43490 P43490 P43490 P43490 P43490 P43490 A0A0C4DFS8 P43490 A0A0C4DFS8 P43490 A0A0C4DFS8	4
MLSAVSQQVQC*IQEALR	C1977 C1977	0.51037	Q14204 Q14204	2
SPLPLGFSPVC*DPMDSK	C90 C90	0.504565	Q96EY5 Q96EY5	2
AIC*IDPAYS	C153 C153 C153 C153	0.501905	K7EMD6 O43765 K7EMD6 O43765	2
EGILSDEIYC*PPETAULLGSYA VQAK	C117 C117 C117 C117 C117 C117	0.500502	P15311 E7EQR4 P15311 E7EQR4 P15311 E7EQR4	4
GC*IGTFSAMNLHSLR	C153 C175 C52 C153 C175 C52 C153 C175 C52	0.49552	Q6DCA0 Q6DCA0 Q6DCA0	4
VIGVELC*PEAVEDAR	C11 C463 C463 C481 C11 C463 C463 C481 C11 C463 C463 C481	0.491796667	H7C100 Q8IZ69 Q8IZ69 F2Z2W7 H7C100 Q8IZ69 Q8IZ69 F2Z2W7 H7C100 Q8IZ69 Q8IZ69 F2Z2W7	3
NIELIC*QENEGENDPVLQR	C228	0.487254	Q15691	4
SNPENNVGLITLANDC*EVLTT LTPDTGR	C58 C43 C58 C58 C58 C43 C58 C58 C58 C43 C58 C58	0.48704	P55036 P55036 Q5VWC4 P55036 P55036 Q5VWC4 P55036 P55036 Q5VWC4	4
LPCIFIC*ENNR	C222 C260 C222 C260 C222 C191 C260	0.486776667	P08559 P08559 P08559 P08559 P08559 P08559 P08559	3
MSYLTAMGADYLSC*DSR	C891 C945 C891 C918 C914 C914 C914 C891 C945 C891 C918 C914 C914 C914 C891 C945 C891 C918 C914 C914 C914 C891 C945 C891 C918 C914 C914 C914	0.479442	Q9UDY2 Q9UDY2	4
NC*DC*LQGFQLTHSLGGGTG SGMGTLLISK	C474 C476 C127 C129 C474 C476 C127 C129 C474 C476 C127 C129 C55 C57	0.478044	A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509 Q13509	3
DVLKEEGVSFLINTFEGGC* GQPSGILAQPTLLYLR	C1229 C1229 C1229	0.47766	P78527 P78527 P78527	2
TPPPSC*SSASSCSSASSC SSASAASPSGAPTC*CASAA AALR	C293 C321 C293 C321	0.468905	A0A087WUU9 A0A087WUU9	2
VDPPFRPC*LQSEEDVSQFDT R	C348	0.467225	Q9UBS0	2
GGC*PGGEATLSQPPPR	C22 C22 C22	0.453336667	P20290 P20290 P20290	3
FDLFFILVDEC*NEVTDYAIAR	C540 C540 C540	0.428873333	Q14566 Q14566 Q14566	3
VAWSPC*GNYLASASFDATTC IWK	C72 C72 C72	0.421813333	O76071 O76071 O76071	2
DVALSSGSAC*TSASLEPSYVL R	C330 C321 C41 C20 C381 C330 C321 C41 C20 C381	0.39342	Q9Y697 Q9Y697 H0YGN5 H7C0I5 Q9Y697 Q9Y697 Q9Y697 H0YGN5 H7C0I5 Q9Y697	2
IC*EPGYSPTYK	C211	0.386745	P07858	2
EACPELDYFVVFSSVSC*GR	C2024 C2024	0.383325	P49327 P49327	3
ELSC*TELQELK	C29 C29 C29 C29	0.316255	Q9ULP9 Q9ULP9 Q9ULP9 Q9ULP9	2
AVEVAC*YVCK	C379 C390 C379 C390	0.263395	P45985 P45985 P45985 P45985	2
C*TVFHGAQVEDAFR	C1828 C1828 C1828	0.24744	P49327 P49327 P49327	3

ALSGYC*GFMAANLYAR	C888 C888 C888 C888 C888 C888	0.244153333	P53618 P53618 P53618 P53618 P53618 P53618	4
C*QQALFHGPGGEALALTEAAR	C76 C76 C76	0.235363333	P23610 P23610 P23610	3
TFVGTPC*WMAPEVMEQVR	C237 C218 C191 C191 C191 C191 C237 C218 C191 C191 C237 C218	0.23065	Q9UEW8 Q9UEW8 C9JIG9 O95747 C9JIG9 O95747 Q9UEW8 Q9UEW8 C9JIG9 O95747 Q9UEW8 Q9UEW8	3
VNIHCPC*GLVTAFVACEDGR	C139 C139	0.19827	Q96EM0 Q96EM0	2
LVDIIC*DKMSELETDPAITAA K	C192 C192	0.184145	Q96E17 Q96E17	2
RFQTIDIEPDIEALLSQGPSC*A	C201 C202 C201 C202 C201 C202	0.179033333	A0A087WUQ6 P07203 A0A087WUQ6 P07203 A0A087WUQ6 P07203	2
ASFENNC*EIGCFAK	C11 C11	0.13862	P56537 P56537	2
ILAVSFAPLIQPC*HSESGK	C223 C124 C223 C63 C223 C124 C223 C63	0.1335	F8W9F3 A0A0G2JM70 Q9NV79 V9GYG6 F8W9F3 A0A0G2JM70 Q9NV79 V9GYG6	2
AMC*AMMSFEKGGQVLIGNW TGDYEGGTAPYK	C217 C217 C217 C217	0.118303333	P49221 P49221 P49221 P49221	4
AC*ANPAAGSVILLENLR	C80 C108 C80 C108	0.11691	P00558 P00558 P00558 P00558	2
ETTATHCGPSTKMLSLCSLPH PSGTC*SPPAFSGG	C73 C73 C73	0.114556667	H0YCCQ4 H0YCCQ4 H0YCCQ4	2
NPLC*PLGQTVQSEIFR	C115 C115	0.113782	Q9Y5R8 Q9Y5R8	3
ASFENNCEIGC*FAK	C15 C15	0.11369	P56537 P56537	2
MQQPQPQGGQQPGPGQQLG GQGAAPGAGGGPGGGPGPG PC*LR	C40 C40 C40	0.11123	Q7Z7E8 Q7Z7E8 Q7Z7E8	3
SLLESC*PINC*QLLEALVALYL QTNQHDK	C1632 C1636 C1632 C1636	0.107235	O60293 O60293	2
AHTC*FNRLDLPYETFEDLR	C801 C922 C914 C801 C922 C914	0.086405	Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5	2
GGTC*ISMIDYLLWPWFER	C136 C142 C170 C136 C142 C170 C136 C142 C170 C136 C142 C170	0.084085	Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5 Q9H4Y5	4
KECENC*DCLQGFQLTHSLGG GTGSGMGTLLISK	C474 C127	0.07961	A0A0B4J269 Q13509	4
AVAIPVFANGNIQCLQDVERC* LR	C220 C220 C88 C203 C220 C220 C220 C88 C203 C220	0.043365	J3QQZ0 J3QLE4 H0YGW8 J3QKP9 Q6P1R4 J3QQZ0 J3QLE4 H0YGW8 J3QKP9 Q6P1R4	2
SAGC*AAYMAPER	C323 C280 C296 C323 C280 C296 C280	0.032925	O14733 O14733 O14733 O14733 O14733 O14733 O14733	2
NIFLVAATLRPETMFGQTNC* WVR	C305 C251 C305 C251 C305 C251	0.029033333	Q9P2J5 Q9P2J5 Q9P2J5 Q9P2J5 Q9P2J5 Q9P2J5	3
CAIIPSDMLHISTNC*R	C245 C214 C214 C220 C190 C253 C214 C245 C214 C214 C220 C190 C253 C214	0.008605	Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5	2
DC*EIKQPVFGANYIK	C58 C80 C80 C4 C14 C58 C80 C80	0.00673	A6NG10 K7ENL2 K7EMC9 K7EIN1 K7ESN4 K7EIJ0 B4DFG2 Q969T9	2

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Peptide	Modified Residue	Avg. Ratio	Uniprot ID	seen in
DC*TSALALVPFSIKPLLR	C74	591.770975	Q15785 Q15785	2
DLNEHIVCCLCAGYFVDATTITECLHTFCKSC*IVK	C49 C71	554.52007	A0A087WUL5 Q9BSM1 A0A087WUL5 Q9BSM1	2
SYPDTDVILMC*FSIDSPDSLENIPEKWTPEVK	C83	539.11681	P08134 Q5JR08 E9PQH6 P61586 P08134 Q5JR08 E9PQH6 P61586	2
SPWLAGNELTVADVVLWSVLQQIGGC*SVTVPAN	C291 C213	518.04251	Q13155 A8MU58	2
KYDGYTSC*PLVTGYNR	C379	502.88448	Q9Y6N5 Q9Y6N5	2
SLRLSC*TASGFTFGDYAMSWVR	C30 C41	412.661155	A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15	3
VHVGQAGVQMGNAC*WELYCLEHGIQPDGQMP SDK	C20 C22	172.5563463	P68366 P68366 P68366 C9JDL2 C9JDL2	3
TC*ETGEPMEAESGDTSSSEGPAQVYLPGR	C11	146.4602943	Q9BQ67 Q9BQ67	2
GTLTEAFPVLGGKAIIEFC*IAR	C733	142.428555	P29144 Q5VZU9 P29144 Q5VZU9	2
ANSSVSVNC*K	C596	84.322086	O60502 O60502	3
MSYYC*SGSSDAPSSPAAPR	C939 C871 C406 C241	54.64208	Q8NF50 Q8NF50 A2A369 A2A370 Q8NF50 Q8NF50 A2A369	2
ICDEC*NYGSYQGR	C49	51.24180667	Q7RTV0	3
YFASRMFC*LR	C240	42.64205667	C9JZ99 C9JZ99 C9JZ99	2
IC*YIFHETFGR	C367 C380 C164	38.134424	O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429 O00429 O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429 O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429	3
HSC*AVVNIPAPCVNKMISHIQDVESK	C86	34.350125	F8W7A7 Q5BJE1 A0A0A0MS97 Q5BJE1 Q5BJE1 J3KRT5 Q5BJE1 F8W7A7	2
C*QWLYLEAADIVESLGKPECEEFLPR	C414	27.84296	A0AVT1 A0AVT1 A0AVT1 A0AVT1	2
KNPFGLVPVLENSQGLIYESAITC*EYLDEA	C90 C62 C90	27.27111	P78417 P78417 P78417	2
MGVEAVIALLEATPDTPAC*VVSLNNGHAVR	C343	25.62807667	Q01813	3
DNTIEHLLPLFLAQLKDEC*PEVR	C377	20.68457667	P30153 P30153 P30153 P30153	3
TMVNLGLQNAC*DEAIYQLGLDLEEEIEEDAGL GNGGLGR	C109	14.41451727	P11216	3

C*MTNTPVVVR	C120 C147 C90	14.328396	P32322 P32322 E2QRB3 J3QKT4 P32322	3
KSQTGILLGVC*SK	C798	14.00430667	Q12923 Q12923 Q12923 Q12923 Q12923 Q12923 Q12923 Q12923 Q12923 Q12923	2
RVDDFEAGAAAGAAPGEEDLC*AAFNVIC*DNV K	C98 C105	12.84930077	Q13158 Q13158 Q13158 Q13158 Q13158 Q13158 Q13158	3
NNLSYDC*IGR	C86	10.440385	Q01581	2
NTLANSC*GTGIR	C416 C393	8.43837	Q96RE7 Q96BF6 Q96RE7 Q96RE7 Q96RE7	3
VC*EEIIAPSKK	C35	7.967453636	A0A075B716 H0YN88 P08708 A0A075B716 H0YN88 P08708 A0A075B716 H0YN88 P08708	3
HNQVESIFLSAIDMYGHQFC*PEN	C1259 C1057 C1189	6.544963333	O00763 O00763 O00763	2
FQSAAGALQEASEAYLVGLFEDTNLC*AIHAK	C111	6.178164286	P84243 K7EK07 P84243 K7EK07	3
KAC*GDSTLTQITAGLDPVGR	C25	5.8867675	P62879	3
AAAPAPVSEAVC*R	C450 C408 C491 C394 C456 C290 C160 C151 C166 C386 C373 C454 C367 C131 C394 C336 C131 C469 C123 C472 C395 C450 C408 C408 C491 C394 C456 C290 C160 C151 C166 C386 C373 C454 C367 C131 C394 C336 C131 C469 C123 C472 C395 C450 C408 C408 C491 C394 C456 C290 C160 C151 C166 C386 C373 C454 C367 C131 C394 C336 C131 C469 C123 C472 C395	5.63796	P20810 E7ES10 P20810 P20810 B7Z574 P20810 P20810 H0Y7F0 H0YD33 H0Y9H6 P20810 E9PCH5 A0A0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 A0A0A0MR45 P20810 E7EQ12 P20810 P20810 P20810 E7ES10 P20810 P20810 B7Z574 P20810 P20810 H0Y7F0 H0YD33 H0Y9H6 P20810 E9PCH5 A0A0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 A0A0A0MR45 P20810 E7EQ12 P20810 P20810 P20810 E7ES10 P20810 P20810 B7Z574 P20810 P20810 H0Y7F0 H0YD33 H0Y9H6 P20810 E9PCH5 A0A0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 A0A0A0MR45 P20810 E7EQ12 P20810 P20810	3
ELEVLLMC*NK	C91 C109	5.310583158	D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1	3

			P62910 F8W727 D3YTB1 P62910 F8W727	
VNQAIWLLC*TGAR	C176 C155	5.027347778	M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782	3
VC*HLGDQLEGVNTPR	C111	4.764665	O00471 A0A0A0MSI8 O00471	2
MPSGC*YVPRSEPR	C5	4.70537	Q96BZ9 Q96BZ9	2
IIC*SAGLSLLAEER	C107 C195	4.45987	S4R338 Q9BV86 S4R338 Q9BV86 S4R338 Q9BV86 S4R338 Q9BV86	3
IQFVGAC*NPPDPGR	C2712	4.395188	Q14204 Q14204 Q14204	3
YWLC*AATGPSIK	C249	4.183331429	P63244 P63244 P63244	3
LAGANPAVITC*DELLLGHEK	C4061	4.1134	P78527 P78527	2
GGPPC*KPPAPEDEDEAWR	C425 C437	4.104993333	P48634 P48634 P48634 P48634 P48634 P48634 P48634 P48634	2
YYAELC*APPGNSDPEQLKK	C573	4.03355	Q96G03 Q96G03	2
AIHTAPVATMAFDPTSTLLATGGC*DGAVR	C129	4.01065875	Q12788 Q12788 Q12788	3
LAEQC*GGLQGFLIFRSFGGTTGSGFTSLLMER	C136 C96 C136 C96	3.980112	A6NHL2 A6NHL2 A6NHL2 A6NHL2	3
TVEIC*PFSFDSR	C536 C572 C536 C572	3.935123333	Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0	3
MC*DFTEDQTAEFK	C2 C2 C2 C2 C2 C2 C2 C2 C2	3.931073333	G3V1Y7 P60660 P60660 G3V1V0 F8W1R7 G3V1Y7 P60660 G3V1Y7 P60660	3
VFFVESVC*DDPDVIAANILEVK	C158 C158	3.87635	O60825 O60825	2
AAAGEDYKADC*PPGNPAPTSNHGPDATEAEED FVDPWTVQTSSAK	C21 C62 C21 C62	3.8292775	P23381 P23381 P23381 P23381	2
KADVIVLAGTVC*DFR	C354 C354	3.774325	A1L0T0 A1L0T0	2
TLIQNC*GASTIR	C455 C417 C410	3.77421	P49368 P49368 B4DUR8	2
AQNTWGC*GNSLR	C410 C423 C522 C522 C410 C423 C522 C522 C441 C423 C410 C522 C522 C148 C522 C522	3.754296	P02545 P02545 P02545 P02545 P02545 P02545 P02545 P02545 Q5TCI8 P02545 P02545 P02545 P02545 A0A0C4DGC5 P02545 P02545	3
SVVC*QESDLPDELLYGR	C187 C187 C187	3.746288571	Q9NS86 Q9NS86 Q9NS86	3
ADLC*SIEQELSSIGSGNSK	C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 C94	3.7051	Q70E73 Q70E73 Q70E73 Q70E73 C9K0J5 C9J164 Q70E73 Q70E73 Q70E73 Q70E73 Q70E73	3
YIYDQC*PAVAGYGPIEQLPDYNR	C453 C453	3.69561	P31930 P31930	2
HGFC*GIPITDTGR	C140 C140 C140 C140	3.679526471	P12268 P12268 P12268 P12268	3
AILQQLGLNSTC*DDSILVK	C813 C812 C801 C817 C813 C812 C801 C817	3.67248	P19367 P19367 P19367 P19367	2

			P19367 P19367 P19367 P19367	
RNLADC*LR	C91 C91	3.66576	P49721 P49721	2
WHC*TVCEDYDLCTCYNTKNHDHK	C1683 C1683	3.65658	Q09472 Q09472	2
FFACAPNYSYAALCEC*LR	C484 C513 C513 C513	3.638138	Q96RS6 Q96RS6 Q96RS6 Q96RS6	3
IDPENAEFLTALC*ELR	C428 C476 C428 C476	3.6298	Q13325 Q13325 Q13325 Q13325	2
GAVEC*CPNCR	C149 C149	3.608382	P31689 P31689	2
IHEC*QWVVEDAPNPVLLSHK	C891 C891	3.60108	Q9BZQ8 Q9BZQ8	2
LVIYGGMSGC*R	C227 C227 C227 C227	3.596716667	P51610 P51610 A6NEM2 P51610	2
MNTLLANGEVPLFEGDEYATLMTQC*K	C3033	3.57754	Q14204	2
SSSQPSSC*CSDPSKPGGNVEGATQSLAEQMR	C289	3.566105	Q13501	2
MTSHPTLPYYLTGAQDGSVRMFEGHSSQITC* FR	C2781 C2802 C2781 C2802	3.550255	Q9Y485 F5H269 Q9Y485 F5H269	2
AAC*SAAAMEEDSEASSR	C198 C175 C195	3.53826	Q05086 Q05086 Q05086	2
FEIINAIYEPTEEEC*EWKPDEEDEISELK	C91 C91	3.534825	B7Z9C2 B7Z9C2	2
VTPTEEHVEGPLPSPVTNGTSPAQLNGGSAC*SS R	C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271	3.521416667	H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599 H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599	2
CWAGSLWLFKDPD*AAPNEGFCASAGVQTEAGVA DLTWVGER	C65	3.504563333	Q9BQA1	2
AANSC*TSYSGTTLNLK	C140 C140 C140 C140 C140 C140 C140 C140 C140 C140	3.499106667	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46	2
DIKWDFTPC*K	C138 C105 C138 C105 C138 C105	3.492033333	P38606 P38606 P38606 P38606 P38606 P38606	3
LLAVNNVC*LEEVTHEEAVTALK	C262 C378 C262 C378 C327 C378 C378 C345 C345 C378 C187 C327 C345	3.49119	Q12959 E7EQD7 Q12959 Q12959 Q12959 Q12959 Q12959 Q12959 Q12959 Q12959 H7C166 B4E2H8 A0A0C4DFT3	2
VC*NVAPIAGETK	C336 C188	3.473	Q13823 H0YG10	2
INDALSC*EYECR	C216 C216 C216 C216	3.428333333	Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0	2
SGDAAIVEMVPGKPMC*VESFSQYPLGR	C411 C411	3.428175714	Q05639 Q05639	3
C*PWAIPQNTISCSLADVMSEQLAK	C22 C22 C22	3.41923	B4E1Q4 O14730 O14730	2
IC*DQWDNLGALTQK	C480 C480 C480 C480 C480	3.361677778	P12814 P12814 P12814 P12814 P12814	3
GALQPQPEGAASDLPPPPDDEPEPGFEVISC*VE LGPRPTVER	C266 C266 C245 C45 C233	3.3586575	Q9HA65 Q9HA65 M0R2L2 M0QYC9 Q9HA65	2
C*DNFTSSWR	C207 C317	3.356535	Q15149 Q15149	2
AAHTEDINAC*TLTTSR	C516 C657 C637 C516 C657 C637	3.355286667	H7C155 P04049 P04049 H7C155 P04049 P04049	2
SSGEIVYC*GQVFEK	C64 C64 C64 C64 C35 C35	3.35493	M0R117 Q02543 M0R117 Q02543 M0R3D6 M0R1A7	2
MVRPNQDGLIASC*SNDQTVR	C252 C252	3.35168	P43034 P43034	3
LINMTYC*PK	C1387 C1430 C1407 C1429 C1387 C1383 C1489 C1450	3.34867	A0A0A0MRB5 A0A0A0MRB5	2

	C1489 C1430 C1429 C1450 C1489			
ALNALC*DGLIDELNQALK	C62 C62 C62 C62 C62	3.334943077	P30084 P30084 P30084 P30084 P30084	3
ENEITGALLPC*LDESRFENLGVSSLGER	C80 C80	3.333388	Q9Y3Z3 Q9Y3Z3	3
AITIAGVPQSVTEC*VK	C158	3.314166667	Q15365	2
LC*SGPGIVGNLVDPSAR	C245 C245 C245 C245 C245	3.309137143	Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6	3
LSIPTYGLQC*TR	C2273 C2273	3.301496667	P49327 P49327	2
ATLQAALC*LENFSSQVVER	C21 C40 C21 C21 C40 C21 C21 C40 C21	3.288175	P59998 P59998 F8WCF6 P59998 P59998 F8WCF6 P59998 P59998 F8WCF6	2
AVLEALGSC*LNNK	C68 C68 C68 C68 C68 C68 C68	3.285215	P34896 P34896 P34896 P34896 P34896 P34896 P34896	3
APPC*EYKDWLTK	C3837 C3837	3.27632	P78527 P78527	2
VLILDEATSALDVQC*EQALQDWNSR	C641 C641 C641 C641 C641 C641 C641 C641	3.230109	Q03519 A0A0G2JLV0 A0A087WYD6 Q03519 A0A0G2JLV0 A0A087WYD6	3
GLGTDEDLSLIEIC*SR	C151 C133 C151 C133 C151 C133 C151 C133 C151 C133	3.205562222	P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355	3
GMENLLEVQVPEDVEQQLQQLDC*R	C368 C368	3.18982	Q9BTY7 Q9BTY7	2
TESPVLTSSC*R	C648 C663 C648 C663	3.189515	Q9H3U1 Q9H3U1 Q9H3U1 Q9H3U1	2
EANTLNLAPYDACWNAC*R	C285 C285 C285 C285 C285 C285	3.186592	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	3
C*ELFDQNLK	C157 C195 C195 C195	3.18378	J3KP27 Q9Y296 Q9Y296 Q9Y296	2
HPSAVTAC*NLDLENLVTDSNR	C325 C325 C325	3.1436	Q9Y678 Q9Y678 Q9Y678	3
ATDSKEPPGELC*PDVLYR	C46 C46 C46 C46 C46 C46 C46 C46	3.134416667	Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6	2
TQNLPC*QLISR	C367 C374	3.131096667	E9PNM1 P37268	2
KGVSASAVPFTPSSPLLSC*SQEGSR	C576 C585 C576 C576 C585 C576 C39 C576 C585 C576 C39	3.130788	J3QRU8 J3QRU8 J3QL89 J3QRU8 J3QL89	3
C*PNPEEGESVLELSLR	C303 C303	3.124035	Q6PCE3 Q6PCE3	2
YTVQDESHSEWVSC*VR	C153 C153 C153	3.11513	P63244 P63244 P63244	3
EKIEAELQDIC*NDVLELLDK	C96 C94 C96 C94 C96 C94	3.093311667	P31946 P31946 P31946 P31946 P31946 P31946	3
C*DENILWLDYK	C152	3.0828	P14618	2
VHNQDPKDWPAQYC*EALADEENR	C283 C283 C283	3.06348	Q96MG7 Q96MG7 Q96MG7	3
VSDTVVEPYNATLSVHQLVENTDETYC*IDNEALY DIC*FR	C183 C193 C183 C193 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211	3.057088	Q5JP53 Q5JP53 P68371 P68371 Q9BUF5 Q9BUF5 P04350 P04350 Q9BVA1 Q9BVA1 Q5JP53 Q5JP53	3

	C201 C211 C183 C193 C183 C193 C201 C211 C201 C211 C201 C211 C201 C211 C131 C141 C131 C141 C201 C211 C201 C211 C201 C211 C201 C211 C183 C193 C183 C193 C131 C141 C131 C141 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211		Q9BUF5 Q9BUF5 P68371 P68371 M0QYM7 M0QYM7 P04350 P04350 Q9BVA1 Q9BVA1 Q5JP53 Q5JP53 M0QYM7 M0QYM7 Q9BUF5 Q9BUF5 P68371 P68371 Q9BVA1 Q9BVA1 P04350 P04350	
ELSFSGIPC*EGGLR	C36 C36 C36	3.044825	Q9NVG8 Q9NVG8 Q9NVG8	3
NC*VLLSRPEISTDER	C854 C853 C854 C853 C854 C853	3.040704	O94855 O94855 O94855 O94855 O94855 O94855	3
DLEEDHAC*PIKK	C567 C567	3.01706	P13639 P13639	2
FPEELTQTFMSC*NLITGMFQR	C389 C339	3.010313333	P26641 P26641	2
GEVPC*TVTSASPLEEATLSELK	C141 C37 C141 C37 C141 C37	2.998203333	P48047 H7C068 P48047 H7C068 P48047 H7C068	2
VDVFREDLC*TK	C22 C22	2.993315	Q06323 Q06323	2
YSYVC*PDLVK	C235 C184 C235	2.989514286	P61158 P61158	3
VICAEEPYC*K	C456 C456	2.978467143	P49915 P49915	3
C*QNALQQVVAR	C602 C620	2.956066667	Q06210 Q06210	2
TNHIGHTGYLNTVTVSPDGSLC*ASGGK	C207 C207 C207	2.943956667	P63244 P63244 P63244	3
TSAAQAIHPGC*GFLSENMEFAELCK	C129 C20 C129 C91 C82 C20	2.92648	Q96RQ3 E9PHF7 Q96RQ3 E9PG35 E9PHF7	2
C*QNALQQVTAR	C603 C603	2.921568	O94808 O94808	3
LNGGLGTSMGC*K	C132 C123 C112 C123 C132 C123 C112 C123	2.914665	E7EUC7 Q16851 Q16851 A0A087WYS1 E7EUC7 Q16851 Q16851 A0A087WYS1	2
LLNLVYDVTPELVDLVITELGMIPC*SSVPVVLRL	C509 C530 C509 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530	2.909023889	Q9UI10 E7ERK9 Q9UI10 E7ERK9 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10 E7ERK9 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10 E7ERK9	3
EVFSSC*SSEVVLSGDDEEYQR	C108 C108 C108 C108	2.898115	Q09666 Q09666 Q09666 Q09666	3
VTQNLPMKEGC*TEVSLLR	C308 C308 C308 C308 C308	2.8965075	H3BQZ7 Q1KMD3 Q1KMD3 H3BQZ7 Q1KMD3	3
TATC*HSSSSPPIDAASAEPYGFR	C1814 C1814	2.891045	P46821 P46821	2
KPTDGASSNC*VTDISHLVR	C369 C644 C710 C708 C138 C342 C369 C644 C710 C708 C138 C342	2.862803333	P49321 P49321 P49321 P49321 H0YDS9 Q5T624 P49321 P49321 P49321 P49321 H0YDS9 Q5T624	2
DSAQC*AAIAER	C347 C376 C376	2.855315	Q96RS6 Q96RS6 Q96RS6	3
HLSSC*AAPAPLTAER	C141 C141	2.840311667	Q6IBS0 Q6IBS0	3

AAIGC*GIVESILNWVK	C441 C405 C431 C486 C441 C405 C431 C486	2.827323333	P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388	2
HTLDGAAC*LLNSNK	C170 C102 C113 C134 C170 C102 C113 C134 C170 C102 C113 C134	2.820952222	S4R3N1 Q9Y3A3 Q9Y3A3 Q9Y3A3 S4R3N1 Q9Y3A3 Q9Y3A3 Q9Y3A3 S4R3N1 Q9Y3A3 Q9Y3A3 Q9Y3A3	3
QVQSLTC*EVDALKGTNESLER	C328 C328 C328 C328 C328 C328 C328 C328 C328 C328 C328 C328	2.808476122	B0YJC4 P08670 B0YJC4 P08670 B0YJC4 P08670 B0YJC4 P08670 B0YJC4 P08670	3
MTEEEVEMLVAGHEDSNGC*INYEAFVR	C102 C138	2.79357	G3V1Y7 P60660	2
YSNSDVIIYVGC*GER	C277 C244 C277 C244 C277 C244 C277 C244	2.789811667	P38606 P38606 P38606 P38606 P38606 P38606 P38606 P38606	3
VTDDLVC*LVIYK	C48 C48 C48	2.7818775	P49458 P49458 P49458	2
EGTQASEGYFSQSQEEFAQSEELC*AK	C659 C615 C613 C659 C615 C613 C659 C615 C613	2.7757	Q16643 Q16643 Q16643 Q16643 Q16643 Q16643 Q16643 Q16643 Q16643	2
TDDYLDQPC*YETINR	C202 C202	2.7714675	P50395 P50395	2
AC*FCIDNEALYDICFR	C199 C199 C199	2.764592	Q9H4B7 Q9H4B7 Q9H4B7	2
TDC*SPIQFESAWALTNIASGTSEQTK	C133 C133	2.764336667	P52292 P52292	3
SC*NGPVLVGSPQGGVDIEEVAASNPELIFK	C162 C162 C162 C162 C162 C162 C162	2.7608	Q96199 Q96199 E9PDQ8 Q96199 Q96199 Q96199 Q96199	3
GYWASLDASTQTTHELTIPNNLIGC*IIGR	C293 C293 C293 C293	2.745437	Q15365 Q15365 Q15365 Q15365	3
KGTDIMYTGTLDC*WR	C257 C257	2.7398	P05141 P05141	2
IIDLEEADEIEDIQQEITVLSQC*DSSYVTK	C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77	2.733618	Q9P289 B4E0Y9 Q8NBY1 Q9P289 Q9P289 B4E0Y9 Q8NBY1 Q9P289 Q9P289 B4E0Y9 Q8NBY1 Q9P289	3
TVDSQGPTPVC*TPTFLER	C237 C237	2.732375	Q9BYG3 Q9BYG3	2
AEIPC*EDEQEHEHNGPLDNK	C439 C626 C455 C471 C626 C439 C626 C455 C471 C626 C439 C626 C455 C471 C626	2.728873333	Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363	3
PC*GEDWLSHPLGIVQGFFAQNGVNPDWEK	C3 C3 C3 C3 C3 C3 C3	2.728667143	Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3	3
TTYQALPC*LPSMYGYPNR	C975 C984 C975	2.714955	P53621 P53621 P53621	2
C*HIDLSGIVEEVK	C244 C244 C279	2.71121	Q6KB66 Q6KB66 Q6KB66	2
LFEDDEHEKEQYC*IR	C294 C436 C205 C294 C436 C254 C294 C436 C205 C294 C436 C254	2.710147143	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5	3

VC*NFLASQVFPFSR	C214 C205 C214 C214 C205	2.703203333	Q99714 Q99714 Q99714 Q99714 Q99714	3
SNLPNC*ANSOTDFMGLFK	C1384 C976 C1384 C976	2.70131	A0A0J9YWLO Q9Y4K1 A0A0J9YWLO Q9Y4K1	2
EIFEDVIDAANC*SSADRFVTLPTILDQLQFTEQ NLDEALTR	C379 C379 C379 C379	2.693105	Q8TCG1 A0A087 Q8TCG1 A0A087	2
AC*FQVGTSEEMK	C717 C718 C729 C728 C717 C717 C718 C729 C728 C717 C717 C718 C729 C728 C717	2.69175	P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658	2
SLLINEVEASC*IR	C262 C289 C262 C262 C262 C289 C231 C262 C262 C289 C231 C262 C262 C289 C231 C262 C262 C262 C262	2.67615	P32322 P32322 P32322 Q96C36 P32322 P32322 E2QRB3 P32322 P32322 P32322 E2QRB3 P32322 P32322 P32322 E2QRB3 P32322 Q96C36 Q96C36 Q96C36	2
IVGIGYNGMPNGC*SDDVLPWR	C71 C60 C71 C60	2.675824	P32321 P32321 P32321 P32321	2
SSILLDVKPWDETDMAQLEAC*VR	C193 C217 C583 C217 C633 C583	2.672313333	P29692 P29692 P29692 E9PK01 E9PRY8 A0A087	2
TSQKGESPLTDC*YGFSGQLIATMK	C902 C953	2.665886667	Q7Z2Z2 Q7Z2Z2	2
DKPELQFPFLQDEDTVATLLEC*K	C29 C49	2.66004	P09543 P09543	2
AHTVLAASC*AR	C104 C104	2.65608	Q8WUY1 Q8WUY1	2
TDVNKIEEFLEEVLC*PPK	C100 C100 C100 C100	2.654205	Q9Y696 Q9Y696 Q9Y696 Q9Y696	3
LWQADC*SSRPLLAGYEDGSVVLWDVSEQK	C175 C175	2.649476667	Q9BYB4 Q9BYB4	2
HDDSSDNFC*EADDIQSPEAEYVLLLLNPER	C166 C166 C166 C166 C166 C166	2.648868571	Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7 Q96HE7	3
ADHQPLTEASYVNLPTIALC*NTDSPLR	C148 C153 C148 C148 C153 C148	2.6468625	C9J9K3 A0A0C4DG17 P08865 C9J9K3 A0A0C4DG17 P08865	3
GDLNDC*FIPCTPK	C143 C199	2.637876667	P11586 F5H2F4	2
DLNC*VPEIADTLGAVAK	C22 C22 C22	2.6226425	O14744 O14744 O14744	3
LGC*NITISEDITPR	C38 C38 C38 C38 C38 C38	2.613108	Q96FJ0 Q96FJ0 Q96FJ0 Q96FJ0 Q96FJ0 Q96FJ0	3
ELHGQNPVVTTPC*NK	C159 C159 C159 C159 C159 C159 C159 C159	2.6116825	Q16630 F8WJN3 Q16630 Q16630 Q16630 F8WJN3 Q16630 Q16630	2
VC*NYGLTFTQK	C65 C66 C65 C66 C65 C65	2.6080825	Q9Y277 Q9Y277 Q9Y277 Q9Y277 Q9Y277 Q9Y277	3
IEGC*IIGFDEYMNLVLDAAEIIHSK	C46	2.60116	P62304	2
YFAGNLASGGAAGATSLC*FVYPLDFAR	C129 C129	2.591712	P05141 P12236	2
ICELLPEAAINDVYLAPLLQC*LIEGLSAEPR	C455	2.58547	Q14974	2
SHIMPAEFSSC*PLNSDEEVNK	C226 C207 C115 C167 C167 C226 C207 C207 C115 C115 C167 C226 C207 C115	2.580256	Q9H0W9 Q9H0W9 Q9H0W9 A0A087WT99 E9PPB5 Q9H0W9 Q9H0W9 E9PQS1	3

			Q9H0W9 E9PJU8 A0A087WT99 Q9H0W9 Q9H0W9 Q9H0W9	
EHINLGC*DMDFDIAGPSIR	C127 C127 C127 C127 C127	2.57366	P21796 P21796 C9J187 P21796 P21796	3
VVNEINIEDLC*LTK	C92	2.5682775	Q8N5K1	3
ELEAVC*QDVLSLLDNYLIK	C97	2.55598	P61981	2
AGSNMLLIGVHGPTTPC*EEVSMK	C2491 C2532	2.5535375	O75369 O75369	2
MAFEQLLDDYPKC*FIVGADNVGSK	C13	2.53996	F8VPE8	2
SAGAC*TAAAFK	C431 C462 C431 C462	2.539003333	P28838 P28838 P28838 P28838	2
ESTGNMVTGQTVK*K	C596 C596 C596	2.5324075	Q15021 Q15021 Q15021	3
LAIIVDEGGDALLVSLVC*R	C86 C86	2.52831	A0A0B4J2E5 A0A0B4J2E5	2
DSLQDFDC*K	C1131 C1131	2.523796	Q9HAV4 Q9HAV4	2
GTHTGVVWVGVSGETSEALS RDPETLVGYSMV GC*QR	C135 C135 C135	2.52303	P49327 P49327 P49327	3
SQEATEAAPSC*VGDMADTPR	C230 C84 C229 C241 C248 C230 C84 C229 C241 C248 C230 C84 C229 C241 C248	2.520503333	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	3
LEGDLTGPSVDVEVPDVELEC*PDAK	C2162 C2162 C2162 C2162 C2162 C2162	2.51725	Q09666 Q09666 Q09666 Q09666 Q09666 Q09666	3
SC*GSSTPDEFPTDIPGK	C105 C105	2.507398	P41091 P41091	2
MGFC*HVGQAGLELLTSGDPPASASQSAGITGV S HR	C4 C4	2.50427	Q9BUJ2 Q9BUJ2	2
AIVPPYSLC*QTGEDLPKDK	C686	2.50195	Q01804	2
SILSPGGSC*GPIK	C215 C215 C215 C215 C215 C215 C215 C215	2.499935	P78347 P78347 P78347 P78347 P78347 P78347 P78347 P78347	2
AVC*MLSNTTAIAEAWAR	C376 C376 C341 C376 C376 C376 C400 C310 C376 C376 C376 C376 C376 C400	2.498837273	P68363 Q71U36 Q71U36 P68366 Q13748 Q9NY65 C9J2C0 Q9NY65 P68363 Q71U36 P68366 Q13748 Q9NY65 C9J2C0	3
SC*SPLAFSAFGDLTIK	C231 C191	2.49471	Q96EY5 Q96EY5	2
GYDSAGVGFDDGNDKDWEANAC*K	C55 C55 C55 C55	2.493902	Q06210 Q06210 Q06210 Q06210	3
YLLQYQEPIPC*EQLVTALCDIK	C107 C107 C107 C107	2.49331	P25789 P25789 H0YMZ1 H0YL69	2
GLC*GAIHSSIAK	C103 C103	2.491156667	P36542 P36542	3
NCGC*LGASPNLEQLQEENLK	C34	2.490788	P54136	2
IIPBLEEGLQLPSPTATSQLPLESDAVEC*LNYQHY K	C132 C132 C132 C132 C132 C132 C132 C132 C132 C132	2.486878788	P61978 P61978 P61978 P61978 P61978 P61978 P61978 P61978 P61978 P61978	3
LVAFC*PFASSQVALENANAVSEGVVHEDLR	C52 C52 C52 C52 C52 C52	2.484476364	O00567 O00567 O00567 O00567 O00567 O00567	3
C*SLQAAAILDANDAHQTETSSSQVK	C494 C487 C525 C525	2.482473333	Q9UHB9 Q9UHB9 Q9UHB9 Q9UHB9	3
GTEAGQVGEPIPTGEAGPSC*SSASDKLPR	C241 C241 C241	2.472315455	O15355 O15355 O15355	3

			P63267 P62736 P63267 P62736 P63267 P62736	
IQAHESESGQLVGVDLNTGEPMVAAEVGVWDNY C*VK	C499 C499 C499	2.390774	P40227 P40227 P40227	2
GWNEC*EQTVALLSLK	C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20	2.389605	Q9UPU9 Q9UPU9 M0QZ22 A0A087WUK6 M0QY61 A0A087WZT0 Q5PRF9 M0QZ22 A0A087WUK6 M0QY61 A0A087WZT0 Q5PRF9 Q9UPU9 Q9UPU9	2
VDDEILGFISEATPLGGIQAASTESC*NQQLDLAL CR	C561 C561 C561	2.37261	P42166 P42166 P42166	3
EHSLIEDLILLEEC*DANIR	C421 C362 C421 C362 C421 C362	2.370663333	Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4	2
DC*NGDTPNLSFYR	C87 C87 C87 C35	2.3665275	Q9NZT2 Q9NZT2 A0A087 A0A0A0MRN5	2
TSGLMTRHC*TANGTWTGTAPDCTIISCGDPGTL ANGIQFGTDFTFNK	C2881 C3020 C3019 C3020 C2881 C3020 C3019 C3020 C2437	2.36427	F5GZ18 Q96PZ7 A0A0U1RQY1 E5RIG2 F5GZ18 Q96PZ7 A0A0U1RQY1 E5RIG2	2
MWINPC*AQVIFDSDPAPK	C218 C208 C185 C165 C218 C208	2.35818	Q8N7H5 Q8N7H5 Q8N7H5 B4DGJ5 Q8N7H5 Q8N7H5	3
EWNLPPNAPAC*MER	C26 C26	2.355085714	Q9BQA1 Q9BQA1	3
SGGLQTPEC*LSR	C439 C439 C439	2.355026667	P85037 P85037 P85037	3
EMNPALGIDC*LHK	C455 C472	2.347845	B7ZAR1 E9PCA1	2
SLLC*GEDEAADENPESQEMLEEQLVR	C941 C941 C941 C941	2.346595556	Q9HAV4 Q9HAV4 Q9HAV4 Q9HAV4	2
LVIVGDGAC*GK	C16 C16 C16 C16 C16 C16 C16 C16 C16 C16 C16 C16 C16 C16	2.345566	P08134 Q5JR08 E9PQH6 P61586 P08134 Q5JR08 E9PQH6 P61586 P08134 Q5JR08 E9PQH6 C9JNR4 P61586	3
IDATQVEVNPFGETPEGQVVC*FDAK	C255 C255 C255 C255 C255	2.34432	Q96199 Q96199 E9PDQ8 Q96199 Q96199	2
C*LHPLANETFVAK	C71 C100 C71 C71 C87 C71 C71 C71 C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71 C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71	2.344248	Q13642 Q13642 Q13642 Q13642 A0A0D9SFB0 Q13642 Q13642 A0A0D9SGB2 A0A0D9SFZ9 Q13642 Q13642 A0A0D9SFI6 A0A0D9SG53 Q13642 A0A0D9SFB0 Q13642 Q13642 A0A0D9SGB2 A0A0D9SFZ9 Q13642 Q13642 A0A0D9SFI6 A0A0D9SG53 Q13642	3
LLLC*GGAPLSATTQR	C450 C450	2.343224	O95573 O95573	2

HAC*VPVDFEEVHVSSNADEEDIR	C81 C23 C58 C81 C81 C81 C23 C58 C81 C81	2.342606	P51553 G5E9Q7 E9PF84 E7EQB8 P51553 P51553 G5E9Q7 E9PF84 E7EQB8 P51553	2
KAEGDLGPSWVC*GFSNLESQVLEK	C184 C184	2.33651	Q15814 Q15814	2
VIIIQAC*R	C192 C264 C246 C285 C134 C248 C192	2.33536	P29466 P29466 B4DVD8 P29466 H0YEC7 G3V169 P29466	2
RVDDFEAGAAAGAAPGEEDLC*AAFNVICDNV GK	C98 C98 C98 C98	2.332368667	Q13158 Q13158 Q13158 Q13158	3
GVPGAIVNVSSQC*SQR	C138	2.33122	Q7Z4W1	2
LHIVQVC*K	C191 C191	2.330523333	O00299 O00299	2
EVYEGEVTELTTPC*ETENPMGGYGK	C141 C141	2.329336667	Q9Y265 Q9Y265	2
AAQGPPAPAVPPNTDVMAC*TQTALLQK	C152 C115 C146 C152 C115 C146	2.32593	O60232 G3V1B8 H0YEB6 O60232 G3V1B8 H0YEB6	2
LALFNPDVC*WDR	C44 C44 C44	2.325057778	O00483 O00483 O00483	2
AGYDGESIGNC*PFSQR	C487 C469	2.3241	Q96NY7 Q96NY7	3
AC*AEVSQWTR	C140 C140 C140 C140	2.32225	Q8NEC7 Q8NEC7 D6RCC9 D6RCC4	2
ISDTGSAGLMLVEFFAPWC*GHCK	C57 C57	2.3220125	P30101 P30101	3
SHSSDFPC*SDFSNFTFWR	C869 C905 C863 C948 C889 C899 C869 C905 C863 C948 C889 C899	2.3201	Q14693 Q14693 Q14693 Q14693 Q14693 Q14693 Q14693 Q14693 Q14693 Q14693	2
VLC*ELADLQDKEVGDGTTSVVIAAELLK	C76 C76 C76 C76 C76 C76 C76	2.319382273	P17987 E7ERF2 P17987 E7ERF2 E7ERF2 P17987 P17987	3
YLAEVAC*GDDR	C134 C134 C134 C134 C134	2.3169545	P27348 P27348 P27348 P27348 P27348	3
IINALSSEPAC*LAEIEEDKAR	C3347 C3347 C3347	2.314386667	P78527 P78527 P78527	3
RQSDLVQC*GVTSPPSAEATGK	C261 C261	2.31282	Q9HC52 Q9HC52	3
AYEYVEC*PIR	C66 C66 C66	2.31244	P53701 P53701 P53701	3
AAPAQSPAAPDPEASPLAEPPEQSLAPWSPQT PAPPC*SR	C100	2.308785	P83111	2
IIVFSAC*R	C91	2.305025	Q07960	2
STDWEDDGWGAWEENEPQEPEEEGNTC*K	C67 C67 C67 C67	2.301104	Q9H2M9 Q9H2M9 Q9H2M9 Q9H2M9	3
C*HEDNVVVAVDSTTNR	C196 C196 C196 C196 C196 C196	2.29233	E9PC74 Q13144 E9PC74 Q13144 E9PC74 Q13144	3
LPPQSSGVDTPC*PNSPVFR	C269 C360	2.291185	O75815 O75815	2
GVLlyGPPGC*SK	C672 C672 C672 C672 C672 C672 C672	2.28668	Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90	3
C*SEGSFLLTTFPRPVTVEPMDQLDDEEGLPEK	C119 C208 C208 C119 C208 C119 C208	2.28419	Q15233 Q15233 Q15233 Q15233 Q15233 Q15233 Q15233	3
RGPC*IIYNEDNGIIK	C208 C208 C208	2.281939444	P36578 P36578 P36578	3
TWYVQATC*ATQGTGLYEGLDWLSNELSKR	C159 C159	2.28157	P18085 P18085	3
NIC*FTWWDVGGQDK	C62 C62 C62 C62	2.28045	P84085 C9J1Z8 P84085 P84085	3
VGMGSGSIC*ITQEVLACGRPQATAVYK	C331 C331	2.278257143	P12268 P12268	3

DDFAYCLNCF*DLIAK	C214 C324 C330 C214 C324 C330	2.265664	Q14192 J3KNW4 A0A0A0MSG2 Q14192 J3KNW4 A0A0A0MSG2	2
AC*YLSINPQKDETELEK	C222 C222 C222	2.262683571	P61163 P61163 P61163	3
IC*DPYAWLEDPDSEQTK	C25 C25	2.258376667	P48147 P48147	3
AKC*ELSSSVQTDINLPYLTMDSGPK	C22 C317	2.255838571	H0YBG6 P38646	3
LDVGNFSWGSEC*CTR	C71 C71 C71	2.250328333	P62241 P62241 P62241	3
C*ALSSPSLAFTPIIK	C238 C120 C255 C238 C120 C255	2.24996	Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5 Q8NFH5	2
DVPLADPGLDNDVGVGGSGGC*LEER	C62 C62	2.245535	Q9NPA3 Q9NPA3	2
LEGDLTGPSVGVVEVPDVELEC*PDAK	C1900 C1900 C1900 C1900 C1900 C1900 C1900 C1900	2.239397727	Q09666 Q09666 Q09666 Q09666 Q09666 Q09666 Q09666 Q09666	3
VQAQYPGVC*INNEVVEPSAEQIAK	C82 C82	2.238065	P50135 P50135	2
GFC*HLCGDQEACCVGLEAGINPTDHLITAYR	C91 C129	2.235265	P08559 P08559	2
VIGSGC*NLDSAR	C163 C192 C164 C164 C163 C192 C163 C192 C163 C192 C164 C164 C163 C163 C163 C163 C149 C163 C149 C163	2.23224125	P00338 P00338 P07195 P07195 P00338 P00338 P00338 P00338 P00338 P00338 P07195 P07195 Q6ZMR3 A0A087WUM2 Q6ZMR3 A0A087WUM2 F5H245 P07864 F5H245 P07864	3
DC*PTGHLTVDEFKK	C38 C38	2.23038	P37235 P37235	2
DQELYFFHELSPGSC*FFLPK	C376 C343	2.226773333	P26639 P26639	2
IC*LAEAFLTADTILNLTQNISEGLVVYPK	C340 C340 C340 C340	2.22652	P30566 P30566 P30566 P30566	3
DNLTWTSDSAGEEC*DAAEGAEN	C237 C237	2.22471	P27348 P27348	2
ENFSLDWC*K	C117 C117 C117 C113	2.2246425	P23919 P23919 P23919 H7BZ20	3
YFTQGNC*VNLTEALSLYEEQLGR	C265 C318 C265 C318	2.223818	P52788 P52788 P52788 P52788	2
SSPGLSDTIFC*R	C27 C27 C27	2.220854	Q9H8M7 Q9H8M7 Q9H8M7	3
QLC*EDWEVVPEPVAR	C45 C45	2.22027	D6RFG8 P27707	2
SSSC*GDETELLGQATLPVGSRSRPLSR	C359 C359 C107 C359 C359 C359 C359 C107	2.215848	O14523 O14523 E9PK05 O14523 O14523 O14523 O14523 E9PK05	3
ANC*IDSTASAEAVFASEVK	C268 C244 C183 C206 C268 C244 C183 C206	2.2085	P22087 M0R2Q4 M0R299 P22087 M0R2Q4 M0R299	3
VLQEALC*VISGVPGLK	C648 C648	2.207105	Q92616 Q92616	2
THEAEIVEGENHTYC*IR	C2199 C2191 C2172 C2199 C2191 C2172 C2199 C2172 C2199 C2172	2.206572	P21333 P21333 Q60FE5 P21333 P21333 Q60FE5 P21333 Q60FE5 P21333 Q60FE5	3
QHFIQEEQILEIDC*TMLTPEPVLK	C180	2.203133333	P41250	2
LQDAFSSIGQSC*HLDLPQIAVVGGSAGK	C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27	2.201353333	P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570	3

STVLSLDWHPNNVLLAAGSC*DFK	C162 C115 C162 C162 C162 C162 C115 C162 C162 C115 C162 C162	2.200165	E9PF58 Q92747 Q92747 O15143 O15143 E9PF58 Q92747 Q92747 E9PF58 Q92747 Q92747 O15143	3
GHALLIDC*R	C233 C203 C233 C203	2.199685	P51570 P51570 P51570 P51570	2
GDLENAFLNLVQC*IQNKPLYFADR	C280 C262 C280 C262	2.197658	P07355 P07355 P07355 P07355	3
GTVLLADNVIC*PGAPDFLAHVR	C223 C173 C223 C173	2.191656	P21964 P21964 P21964 P21964	3
MC*DFGISGYLVDSVAK	C212 C178 C207	2.19157	P46734 P46734 P46734	2
STLIDTLFNTNFEDYESSHFC*PNVK	C100 C100 C100 C100 C100 C100 C85 C100 C77 C100	2.19065	Q9P0V9 Q9P0V9 B5ME97 E7EW69 Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69	2
VILALGDYMGATCHAC*IGGTNVR	C136 C135 C135	2.1889025	Q14240 E7EQG2 Q14240	3
SC*SGVEFSTSGSSNTDTGK	C47 C47 C47 C47 C47 C47	2.187746429	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	3
NEC*DPALALLSDYVLHNSNTMR	C459	2.18699625	Q13200	3
EC*PSDEC*GAGVFMASHFDR	C121 C126 C121 C126	2.1859	P62979 P62979	2
LGMLSPEGTC*K	C212 C212	2.18496	P49327 P49327	3
LLEQAEAEGC*QR	C326 C326	2.18434	Q9UBN6 Q9UBN6	3
LAAC*VNLIPQITSIYEWK	C73 C115 C73 C96 C96 C73 C115 C73 C96 C96	2.184005	C9IZG4 O60888 O60888 C9IZQ5 O60888 C9IZG4 O60888 O60888 C9IZQ5 O60888	2
EC*ELYVQK	C18 C18	2.179088333	P10644 P10644	3
LLQPDFQPVC*ASQLYPR	C265 C201 C258 C265 C201 C258 C265 C201 C258 C265 C201 C258 C265 C201 C258	2.177125	Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0	3
VFAEC*NDESFWFR	C38 C38	2.17453	D6RF07 D6RBC5 D6R918 D6RG39 D6RDI5 D6RC55 D6RIT9 D6RA54 D6RF07 D6RBC5 D6R918 D6RG39 D6RDI5 D6RC55 D6RIT9 D6RA54 D6RF07 D6RBC5 D6R918 D6RG39 D6RDI5 D6RC55 D6RIT9 D6RA54	3
TC*VPADINKEEEFVEEFNR	C12 C12 C12 C12	2.16799125	P98170 P98170 P98170 P98170	3
VIEQLGTPC*PEFMK	C245 C245	2.166436667	P45983 P45983	2
GFCHLC*DGQEACCVGLEAGINPTDHLITAYR	C94 C132	2.164265	P08559 P08559	2
GPVLAEDFLDIMQPINPQC*R	C162 C162 C162 C162	2.161365556	P21281 P21281 P21281 P21281	3
VQYLEDTPFAC*ANFPEPR	C31 C31	2.159435	Q9Y613 Q9Y613	3
AVFPEGPC*EEPLQLR	C900 C900 C900 C900 C900 C900	2.154316923	Q96P48 Q96P48 Q96P48 Q96P48	3

	C660 C900 C660 C655 C655 C900 C660 C900 C660 C655 C655 C900		Q96P48 Q96P48 Q96P48 Q96P48 Q96P48 E7EU13 Q96P48 Q96P48 Q96P48 Q96P48 Q96P48 E7EU13 Q96P48 Q96P48	
VVNIEGVDSNMC*CGTHVSNLSDLQVIK	C322 C383 C209 C292 C322 C383 C209 C292	2.1530425	Q9BTE6 Q9BTE6 Q9BTE6 C9J5N1 Q9BTE6 Q9BTE6 Q9BTE6 C9J5N1	3
YLGIPGDKEYCISSDDLFLPYC*PGK	C239 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151	2.152433333	A0A087WSW9 E2QRB9 Q16881 F8W809 Q16881 A0A087WSY9 Q16881 Q16881 Q16881 Q16881 Q16881	2
NSCNNFIYGGC*R	C166 C54 C116 C109 C146 C44 C166 C54 C116 C109 C146 C44	2.15044	O43291 K7ESI5 K7EM91 O43291 K7EKQ0 K7EQZ3 O43291 K7ESI5 K7EM91 O43291 K7EKQ0 K7EQZ3	2
C*IPYAVLLEALALR	C110 C110 C110 C110 C110 C110 C110 C110 C110 C110	2.149676667	F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8	2
IADISQVYTQNAEMRPLGC*CMILIGIDEEQGPQV YK	C136 C136 C136	2.145656667	P60900 G3V295 P60900	2
VWELGGC*ANK	C253	2.14438	P08240	2
EGILQYCQEVYPELQITNVVEANQPVTIQNWC*K	C98 C98 C93 C98 C63 C98 C98 C98 C98 C98	2.143765	P05067 P05067 P05067 P05067 A0A0A0MRG2 P05067 P05067 P05067 P05067 P05067	2
SVPC*DSNEANEMMPETPTGSDPQPAPK	C16 C16	2.1426225	Q9NS26 Q9NS26	2
QTISNAC*GTIGLIHAIANNKDK	C95 C95 C95 C95	2.1380175	P15374 P15374	2
TC*DISFSDPDDLNFK	C47	2.133536667	P61081	2
IC*ALDDNVCMFAAGLTADAR	C63 C63 C63	2.129555	O14818 O14818 O14818	2
AVQDLC*GWR	C428 C428 C428	2.127988333	Q9P258 Q9P258 Q9P258	3
VPADTEVVC*APPTAYIDFAR	C42 C79 C42 C79	2.125948	P60174 P60174 P60174 P60174	3
SQQDTFLPHVEC*GTITLIGATTENPSFQVNAALL SR	C127 C347	2.11751	Q96S55 Q96S55	2
GIFPVLC*KDPVQEAWAEDVDLR	C474 C474 C474 C474 C474 C474 C400 C400 C474 C474	2.115975	P14618 P14618 P14618 P14618 P14618 P14618 B4DNK4 B4DNK4 P14618 P14618	3
FSPNSSNPIIVSC*GWDK	C168 C168	2.110696923	P63244 P63244	3
AAAPAPEEEMDEC*EQALAAEPK	C316 C266 C316 C266 C316 C266 C316 C266 C316 C266 C316 C266	2.110351646	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	3
LWNTLGVK*K	C138 C138	2.1065875	P63244 P63244	3
NTVLC*NVVEQFLQADLAR	C70 C70 C70	2.10557	Q14258 Q14258 Q14258	2
HAELIASTFVDQC*K	C283 C283 C283	2.104465714	Q9UBB4 Q9UBB4 Q9UBB4	3
RLIPDGC*GVK	C195 C195	2.103605	P27635 P27635	2

AGAPDEAVCGENVSQIYC*ALLGCMDDYTTDSR	C850 C850 C850 C124 C850 C850 C850 C850 C850 C850	2.09733625	Q9BTW9 Q9BTW9 J3KR97 A0A0J9YW15 Q9BTW9 Q9BTW9 J3KR97 Q9BTW9 Q9BTW9 J3KR97	3
GFEVVMTEPIDEYC*VQQLK	C521 C394	2.094507333	P08238 Q58FF7	3
LDVGNFSWGSECC*TR	C72	2.09407	P62241	2
FQGIKHEC*QANGPEDLNR	C118 C135	2.089628	P60981 P60981	2
AILFSQPLQITDTQQGC*IAPVELR	C716 C716 C716 C716	2.0892575	Q8NBF2 Q8NBF2 Q8NBF2 Q8NBF2	3
VFIMDSC*DELIPEYLNFR	C366 C366 C366 C366	2.08916	P08238 P08238 P08238 P08238	3
NTPSFLIAC*NK	C68 C179 C179	2.08692	H7C4H2 Q9Y5M8 Q9Y5M8	2
FETFC*LDPSLVTK	C531 C524 C562	2.08625	Q9UHB9 Q9UHB9 Q9UHB9	2
NEEDIGAGDQGLMFGYATDETEEC*MPLTIVLAH K	C149 C149	2.08588	P31153 P31153	2
LYYFQYPC*YQEGLR	C130 C130 C130	2.085052727	Q9NRW3 Q9NRW3 Q9NRW3	3
GATVLPANTPGNVGSGKQC*CSGK	C343 C343	2.08249	P22059 P22059	2
TGQATVASGIPAGWMGLDC*GPSSKK	C316 C288 C316 C316	2.08106	P00558 P00558 P00558 P00558	3
NAIDDGC*VVPGAGAVEVAMAEALIK	C406 C406	2.0779475	P40227 P40227	3
KHGLEVIYMIPEIDEYC*VQQLK	C529 C651	2.075493333	P07900 P07900	2
WC*NVQSTQDEFEELTMSQK	C59 C59 C59 C59	2.067714545	D6RFG8 P27707 D6RFG8 P27707	3
NFYGGNGIVGAQVPLGAGIALAC*K	C181 C219 C181 C219	2.0676925	P08559 P08559 P08559 P08559	2
LEC*PETDCEKGWALLK	C137 C137 C137 C137	2.065585	Q13325 Q13325 Q13325 Q13325	2
KSPSSDSWTC*ADTSTER	C359 C351 C359 C351	2.06441	Q8N6T3 Q8N6T3 Q8N6T3 Q8N6T3	2
TIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C347 C312 C312 C312 C347 C347 C347 C347 C371 C281 C347 C371 C281 C347 C371 C281 C347 C347 C347 C347 C347 C347 C347 C371 C281 C347 C371 C281 C105 C105 C105 C347 C347 C347 C347 C347 C347 C347 C347 C371 C347 C371 C347 C371 C347 C371 C347 C371	2.061803636	Q71U36 Q71U36 Q71U36 Q9BQE3 Q9BQE3 Q9BQE3 Q71U36 Q71U36 Q71U36 Q13748 Q13748 Q13748 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q71U36 Q71U36 Q71U36 Q13748 Q13748 Q13748 Q9NY65 C9J2C0 Q9NY65 Q9NY65 Q9NY65 C9J2C0 Q9NY65 V9GZ17 V9GZ17 V9GZ17 Q71U36 Q71U36 Q71U36 Q71U36 Q71U36 Q13748 Q13748 Q13748 Q13748 Q13748 Q9NY65 C9J2C0 Q9NY65 C9J2C0 Q9NY65 C9J2C0 Q9NY65 C9J2C0 Q9NY65 C9J2C0	3
LEFSIYPAPQVSTAVVEPYNSILTTHHTLEHSDCA FMVDNEAIYDIC*R	C213 C213 C213 C213 C213 C213	2.05869	P68363 P68363 Q71U36 Q71U36 P68366 P68366	2

AGAIAPC*EVTVPAQNTGLGPEK	C105 C119 C119 C119	2.058336667	F8VPE8 P05388 P05388 P05388	3
ISFC*LDIHNMSVK	C483 C483	2.058006667	O43242 O43242	2
SDFGSC*PPEEQPRGWVWFSEQEADVFSALEEPA VCR	C64	2.05739	Q8WZ82	2
SPAAEC*LSEKETEELMAWMR	C573 C520	2.05455	Q12931 Q12931	2
NIAQIAVVMGSC*TAGGAYVPAMADENIIVR	C216	2.052186667	Q9HCC0	3
YC*PNSVLVIIDVKPK	C116	2.05106	P51665	2
SNTGGQAFPQC*VFDHWQILPGDPFDNSSRPSQ VVAETR	C812	2.050682	P13639	2
VNLHEGNTWC*PSSLGVQSLPLDGSGAAEK	C360 C360 C360 C360 C360 C207	2.048584	Q6A108 Q6A108 Q6A108 K7ELR8 A0A087	3
QSELEPVVSLVDVLEEDELENEAC*AVLGGSDS EK	C35 C35 C35 C35 C35	2.0485775	G3V253 Q8N806 H0YJA0 G3V336 G3V2G3	2
VWAVLPSSPEAC*GAASLQER	C170 C170	2.047846667	Q5T440 Q5T440	2
VLSSSGSEAAVPSVC*FLVPPPNQEAQEAETR	C992 C878 C992 C992 C882 C859 C878 C841 C823 C855 C833 C855	2.045786	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	3
QYPWGVAEVENGEHC*DFTILR	C280 C280 C260 C279 C280 C280 C260 C279	2.040308333	Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181	2
SASLDNGGC*ALTTFSVLEGEK	C34 C27 C92	2.039145	P35610 P35610 P35610	2
FSFC*CSPEPEAEAEAAAGPGPCER	C26 C26 C26 C26 C26 C26 C26	2.0384425	E3W990 E7EMC7 Q13501 E7EMC7 Q13501 E7EMC7 Q13501	2
SSVNC*PFSSQDMK	C1029 C1029 C1029	2.033448571	Q08211 Q08211 Q08211	3
DGLENQTPEFFQDVC*KPK	C1992 C1992 C1992	2.03048	P49327 P49327 P49327	3
EALAEASAWC*YLYGTGVSAGVYLPGR	C3821 C3821 C3707 C3707 C3821 C3821 C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684 C3821 C3711 C3688 C3707 C3670 C3652 C3684 C3662 C3684	2.028271538	Q15149 Q15149	3
YRPENTPEPVSTSVSHYGAEPTTVSPC*PSSSAK	C42 C47	2.022396667	P07947 J3QRU1	2
GC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374 C374 C374 C374	2.019493333	P22234 P22234 E9PBS1 P22234	2
LSSC*DSFTSTINELNHCLSLR	C92 C92	2.01425	P07814 P07814	2
TPQPGSPSPNTPC*LPEAAVSQPGSAVASDWR	C644 C644	2.013505	Q9Y4R8 P01770 Q9Y4R8	2
KPWFLTNEVEEC*ENYFSK	C99 C117 C99 C117	2.01324	E7EM93 Q9BQG2 E7EM93 Q9BQG2	2
VIFLQGGGC*GQFSAVPLNLIGLK	C80 C80 C80 C80 C80	2.012533333	Q9Y617 Q9Y617 Q9Y617 Q9Y617 Q9Y617	3
FTTEIHPSC*VTR	C612 C612 C612	2.0114975	P29317 P29317 P29317	3
AAC*LESAQEPAGAWGNK	C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53	2.007441429	A0A024R4E5 C9JES8 C9JT62 C9JHS7 C9JIZ1 C9JZI8 C9JK79 C9J5E5 C9JHZ8	3

			A0A024R4E5 A0A024R4E5	
LLAPDC*EIIQEVGK	C215 C215 C215 C215	2.004464583	Q9NQT5 Q9NQT5 Q9NQT5 Q9NQT5	3
VGILDVDLC*GPSIPR	C54 C54	2.004123333	Q9Y5Y2 Q9Y5Y2	2
LLPAITILGC*R	C389 C442 C389 C442 C389 C442 C389 C442	1.997285455	Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6	3
SPLDPDSSLSC*TLPNGFGGQSGPEGER	C243 C173 C243 C173 C243 C173	1.996884	Q9H4L4 A0A087 Q9H4L4 A0A087 Q9H4L4 A0A087	3
SSSSVTTSETQPC*TPSSSDYDLQR	C334 C334	1.995176667	P50552 P50552	2
TDSCDVNDC*VQQVVELLQER	C212 C212 C212	1.98764	O43252 O43252 O43252	3
VPTANVSVVDLTC*R	C247 C247 C247 C247 C247 C247	1.98624	P04406 P04406 P04406 P04406 P04406 P04406	3
FQLTDC*QIYEVLSVIR	C143 C179 C143 C179 C143 C179 C143 C179 C143 C179	1.978224	Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555	3
SGTIC*SSELPGAFAAGFHLNEHLYNMIIR	C190 C160 C200 C190 C190 C122 C141 C190	1.972565	A0A0C4DGQ5 K7EKD8 K7ELJ7 P04632 A0A0C4DGQ5 U3KQE2 A0A075B7C0 P04632	3
SDITKLEVDIVNAANSLLGGGVDC*IHR	C186	1.971371667	Q9BQ69	3
VTEPSAPC*QALVSIGDLQATFHGIR	C795	1.96723	Q9UPN7	2
C*PEALFQPSFLGMESCGIHETTFSIMK	C257 C257 C257 C257	1.9649325	P60709 P63261 P60709 P63261	2
AC*YLSINPQKDEALETEK	C222 C222 C222	1.964893333	P42025 P42025 P42025	3
ADIDVSGPKVDVEC*PDVNIIEGPEGK	C2806 C2806 C2806	1.964477692	Q09666 Q09666 Q09666	3
QAFTDVATGSLGQGLGAAC*GMAYTGK	C133 C133	1.96357	P29401 P29401	2
C*AGNEDIITLR	C81 C81	1.9633725	P12004 P12004	3
PMC*IPPSYADLGK	C13 C13 C13 C13 C13 C13 C13 C13	1.962262381	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	3
DC*QIAHGAAQFLR	C1086 C1093 C1086 C1093	1.961045	C9J2Y9 P30876 C9J2Y9 P30876	2
VPAFEGDDGFC*VFESNAIAYYSNEELR	C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68 C118 C68	1.954383333	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	3
LLSALC*PEEPPVHSSAQIVSK	C334 C334 C334 C334 C334 C334 C334 C334 C334	1.95168	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	3
NLSLDLIDLVPSLC*EDLLSSVDQPLK	C36 C36 C36 C36 C36 C36	1.951625714	P47756 P47756 P47756 P47756 P47756 P47756	2
YIETSELC*GGAR	C361 C374 C374 C374 C361 C361 C361 C361 C158	1.95047	O00429 O00429 O00429 G8JLD5 O00429 O00429	3

	C361 C374 C374 C374 C361 C361 C361 C361 C361 C374 C374 C374 C361 C361 C361 C361		O00429 O00429 O00429 O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429 O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429	
HFVLDEC*DK	C197 C197 C197	1.94685	O00148 O00148 O00148	3
C*GNQAAMELDDTLK	C269 C269	1.94585	P67775 P62714	2
WGTIMEVENTHHC*EFAYLR	C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 C513 C367 C512 C524 C531	1.945361818	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	3
MQHLNPDQPQLIPEQITTDITPEC*LVSPR	C520 C520 C520 C473 C520 C520 C473	1.9430325	Q96AC1 Q96AC1 Q96AC1 H0YJ34 Q96AC1 Q96AC1 H0YJ34	2
AEVLISTVGPEDC*VVPFLTRPK	C38 C38	1.938512	P56192 P56192	3
EGIC*ALGGTSELSSEGTHQHSYSEEEKYAFVNWINK	C104 C104 C104 C104 C104 C104 C104 C104	1.937356333	P13797 P13797 P13797 P13797 P13797 P13797 P13797 P13797	3
C*DQDAQNPLSAGLQGAC*LMETVELLQAK	C240 C256 C245 C261 C124 C140 C242 C258 C240 C256 C245 C261 C124 C140 C242 C258 C240 C256	1.93725	F8W116 Q13561 H0Y198 Q13561 Q13561 Q13561 H0Y198 Q13561 Q13561	2
EC*PSDECGAGVFMASHFDR	C121 C121 C121 C121	1.937071333	P62979 P62979 P62979 P62979	3
FCEMCCDC*R	C224 C207 C224 C207 C224 C207	1.93701	Q8TF05 Q8TF05 Q8TF05 Q8TF05 Q8TF05 Q8TF05	3
TGIEQGS DAGYLC*ESQK	C322 C322	1.93665	P40939 P40939	2
TC*LPGFPGAPCAIK	C1817 C1886 C1930	1.934815	P51610 P51610 P51610	2
LNISFPATGC*QK	C12 C12 C12 C12	1.932567778	P62753 P62753 P62753 P62753	3
TWYVQATC*ATQGTGLYDGLDWSHELK	C159	1.92924	P84085	2
VSDTVVEPYNATLSVHQLVENTDETYCIDNEALYDIC*FR	C193 C211 C211 C211 C211	1.92527	Q5JP53 P68371 Q9BUF5 P04350 Q9BVA1	3
KPASFMUSIC*DER	C574 C845 C835 C845 C845 C835	1.923671667	P53396 P53396 P53396 P53396 P53396 P53396	3
FLSQIESDC*LALLQVR	C794 C794 C794 C794 C794	1.920846667	P52789 P52789 P52789 P52789 P52789	3
MEC*PEIDCEE GWALLK	C107 C138 C107 C138	1.92033	P09914 P09914 P09914 P09914	2
TGAVYLC*PLTAHKDDCER	C94 C94 C94 C94	1.919726	P26006 P26006 P26006 P26006	2
FC*ACPEEAHALELR	C64 C64 C64	1.91884	Q9NP81 Q9NP81 M0QWZ7	2
C*IADVVSFLFITVMDK	C128 C128 C111 C128	1.91594	Q9UK41 Q9UK41 E9PM90 Q9UK41	2
C*EFQDAYVLLSEK	C237 C237 C237 C237	1.915118	P10809 P10809 P10809 P10809	3

AIVLFTSDAC*GLSDVAHVESLQEK	C193 C173 C326 C193 C173 C326 C193 C173 C326 C193 C173 C326	1.914018182	P24468 P24468 P24468 P24468 P24468 P24468 P24468 P24468 P24468 P24468	3
KAC*ADATLSQITNNIDPVGR	C25 C25 C25 C25	1.910501429	P62873 P62873 P62873 P62873	3
AEGSDVANAVLDGADC*IMLSGETAKGDYPLEAV R	C358 C358	1.909135455	P14618 P14618	3
LNQVC*FDDDGTSPPQDR	C422 C422 C422 C299 C422 C422 C299 C422	1.90822	H3BVG0 Q8N1F7 H3BVG0 Q8N1F7 Q8N1F7 H3BVG0 Q8N1F7 Q8N1F7	3
TPGAATASASGAAEDGAC*GCLPNPGTFEECHR K	C74 C74 C74	1.907655556	O96008 O96008 O96008	3
TASISSPSEGTPTVGSYGC*TPQSLPK	C787 C864 C787 C864	1.90295	Q6PKG0 Q6PKG0 Q6PKG0 Q6PKG0	2
VCNALALLQC*VASHPETR	C99 C99	1.901525	Q92600 Q92600	2
LDINLLDNVNC*LYHGEGAQQR	C34 C34 C34 C34	1.899221333	O14980 O14980 O14980 O14980	3
TVEEIEACMAGC*DK	C482 C418 C482	1.898591818	P12955 P12955 P12955	3
HTVFLDDGTVYTCGC*NDLGQLGHEK	C60 C60 C60	1.8978975	Q5GLZ8 Q5GLZ8 Q5GLZ8	2
C*QENGQELSPIALEPGPEPHR	C217 C217 C154 C207 C154 C217 C217 C154 C207 C154	1.89351	O94966 O94966 E7EST9 O94966 B5MEG5 O94966 O94966 E7EST9 O94966 B5MEG5	2
INPYMSSPC*HIEMILTEK	C144 C144 C144 C106 C144 C134 C106 C144 C144 C144 C144 C144 C106 C144 C134 C106 C144 C144 C144 C144 C144 C106 C144 C134 C106 C144 C144	1.893458	A0A087 P18621 P18621 P18621 A0A0A6YYL6 J3QLC8 A0A0A0MRF8 J3QQT2 A0A087 P18621 P18621 P18621 A0A0A6YYL6 J3QLC8 A0A0A0MRF8 J3QQT2 A0A087 P18621 P18621 P18621 A0A0A6YYL6 J3QLC8 A0A0A0MRF8 J3QQT2	3
LC*PNSTGAEIR	C377 C240 C377	1.893375	P35998 P35998 P35998	2
YRDC*LTESNLIK	C554 C554 C554	1.892674	P21980 P21980 P21980	3
AGALQC*SPSDAYTKK	C1939 C1939	1.8917025	Q9Y490 Q9Y490	2
AWSTGDC*DNGGDEWEQEIR	C54 C54 C54 C54 C54 C54 C54 C54 C54 C54 C54	1.88840125	Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8 Q9BRF8	3
VNLQMVDYDPLC*R	C462 C493 C533 C462 C493 C533 C462 C493 C533 C462 C493 C533	1.886541429	Q9Y285 Q9Y285 K7ER00 Q9Y285 Q9Y285 K7ER00 Q9Y285 Q9Y285 K7ER00 Q9Y285 Q9Y285 K7ER00	3
DNEVDQFQYCVFLSC*IAMMCNEFFEGFPDKQPR	C81 C81	1.886331667	P26447 P26447	3
NLNDQVLFIDQGNRPLFEDMTDSDC*R	C70 C74 C70 C74	1.884697143	Q14116 Q14116 Q14116 Q14116	2

VNDFETADILC*PK	C111 C111 C111 C111 C111 C111	1.884045	Q9BZD4 E9PQC4 E9PP32 B1AQT3 Q9BZD4 B1AQT4	2
VC*NQIEFLNTEFK	C39 C39	1.883773333	O14879 O14879	3
MYTGLC*NFVER	C118	1.88323	P35625	2
VQTDAFVSNELDDPDDLQC*K	C465 C486 C465 C462 C485 C464 C486 C465 C462 C485 C464 C486 C465 C462 C485 C464 C486	1.88291	Q9UI10 E7ERK9 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10 E7ERK9 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10 E7ERK9 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10 E7ERK9	3
AVSPAIPSAPLYEEITYSGISDGLSQASC*PLAAID HILDSSR	C428 C428 C406 C406 C467 C428 C428 C406 C406 C467	1.88202	O60291 O60291 O60291 O60291 K7EPJ5 O60291 O60291 O60291 O60291 K7EPJ5	2
AC*DLPAAVHFPDTER	C181 C153 C181 C123 C181 C181 C153 C181 C123 C181	1.881765	A0A087 A0FGR8 A0FGR8 A0FGR8 A0A087 A0FGR8 A0FGR8 A0FGR8	2
YQVTWYTSWSPC*PDCAGEVAEFLAR	C97 C97	1.88161	Q9NRW3 Q9NRW3	2
C*SGIGDNPGETAAPR	C2675	1.881438	P50851	3
YYALCGFGGVLSC*GLTHTAVVPLDLVK	C75 C75	1.87943	Q00325 Q00325	2
LANTC*FNEIEK	C241 C197 C241 C197	1.87795	Q9NP61 Q9NP61 Q9NP61 Q9NP61	2
IC*DQWDALGSLTHSR	C499 C499 C499	1.877706667	O43707 O43707 O43707	3
ARQYPWGVVQVENENHC*DFVK	C268 C268 C278 C268 C260 C293 C293 C278 C293 C270 C293 C293 C293 C293 C293 C271 C271 C269 C271 C211 C269 C271 C268 C268 C278 C268 C260 C293 C293 C278 C293 C270 C293 C268 C268 C278 C268 C260	1.876535714	D6RER5 D6RGI3 Q9NVA2 Q9NVA2 D6RDU5 Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69 Q9P0V9 Q9P0V9 B5ME97 E7EW69 A6NMH6 Q92599 F8W818 Q92599 Q92599 A6NFAQ9 Q92599 D6RER5 D6RGI3 Q9NVA2 Q9NVA2 D6RDU5 Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69 D6RER5 D6RGI3 Q9NVA2 Q9NVA2 D6RDU5	3
NTFIGTPYWMAPEVIAC*DENPDATYDYR	C202 C202 C202 C202 C65 C202 C202 C164 C202 C202 C202 C202 C202 C202 C202 C202 C202 C202	1.876283333	Q8N4C8 O95819 Q8N4C8 E7ESS2 I3L2I2 A0A0D9SEY1 Q8N4C8 H7C360 E7EN19 O95819 G5E948 E7ENQ1 Q8N4C8 O95819 O95819 O95819 Q8N4C8	2
IPDWC*SLNNPPELEMMFDVGK	C388 C388 C388	1.87586	Q9NZ32 Q9NZ32 Q9NZ32	3
YAEYFLRPMLQYVC*DNSPEVR	C915 C933 C917 C915 C933 C917 C855 C915 C933 C917	1.875072	O00410 O00410 H0Y8C6 O00410 O00410 H0Y8C6 O00410 O00410 O00410 H0Y8C6	3

VVSGMVNC*NDDQGVLLGR	C230 C230 C230 C230	1.874430606	P21980 P21980 P21980 P21980	3
ENFDEVVNDADIILVEFYAPWC*GHCKK	C206 C206	1.873983043	P13667 P13667	3
AGEGTYALDSESC*MEK	C272 C272 C272 C255 C272 C272 C272	1.8727075	O00541 O00541 O00541 B5MCF9 O00541 O00541 O00541	3
SLC*NLEESITSAGRDDLESFQLEISGFLK	C63 C63 C63 C63 C63 C63 C63 C63 C63 C63 C63 C63 C63 C63 C63 C63	1.870779	Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0	3
AC*PRPEGLNFQDLK	C219 C227 C307 C219 C227 C307	1.868766	P15927 P15927 P15927 P15927 P15927 P15927	3
SAVLQPGC*PSVGIPHSYVNAQLEK	C22 C22 C22	1.867243333	Q9P253 Q9P253 Q9P253	3
METYC*SSGSTDTSPVIDAVTHALTATTPYTR	C201 C288 C201 C288	1.86306	E9PCG9 Q02338 E9PCG9 Q02338	3
QAVLGAGLPISTPC*TTINK	C119 C119 C119 C119 C119	1.86305	P24752 P24752 P24752 P24752 P24752	3
ETVYC*LNDDDETEVLKEDIQGFRR	C296 C296 C296 C296	1.860283333	P13010 P13010 P13010 P13010	3
LTGAGGGGC*GITLLKPGLEQPEVEATK	C287 C339 C287 C339	1.85693	F5H8H2 Q03426 F5H8H2 Q03426	2
LTAC*QVATAFNLSR	C441 C425 C441 C383 C425	1.85686	O95671 O95671 O95671 O95671 O95671	2
TTSFAESC*KPVQQPSAFGSMK	C14 C14 C14 C14	1.85507	P49841 P49841 P49841 P49841	2
AFC*GFEDPR	C4494 C4380 C4494 C4494 C4384 C4361 C4380 C4343 C4325 C4357 C4335 C4357 C4494 C4384 C4361 C4380 C4343 C4325 C4357 C4335 C4357	1.8535925	Q15149 Q15149	3
GKHDELADSLPC*AEGEFIFLR	C296 C220 C296 C220 C296 C220 C296 C220	1.852018333	Q9H0D6 Q9H0D6 Q9H0D6 Q9H0D6 Q9H0D6 Q9H0D6 Q9H0D6 Q9H0D6	3
GMGESC*FEDLLPWLMETLTYEQSSVDR	C1692 C1692	1.849041667	Q92616 Q92616	2
SLLETNEIPSLILWGPPGC*GK	C272 C52 C272 C52 C272	1.845788	Q96S55 Q96S55 Q96S55 Q96S55 Q96S55	3
VWLQYQC*LWDMQAENIYNR	C1059 C1059 C1059 C1059	1.845174286	Q14204 Q14204 Q14204 Q14204	3
SQQTSLSEQIDGSALSC*FSTHQNNLLNVFAD QPNK	C213 C213 C213 C213	1.84482	Q96FJ0 Q96FJ0 Q96FJ0 Q96FJ0	2
VYEVVNEDPETAFC*TLANR	C617 C603 C618 C308 C617 C603 C618 C308	1.844655	Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5	2
NIIQPPSCVLHYYNVPLC*VTEETFTK	C459 C430 C464 C464 C459 C430 C459 C430 C464 C464 C459 C430	1.84215	Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3 Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3	2
HSVTYGDC*AVGAR	C270	1.84196	Q96IF1	2

LATGSDNC*A AFFEGPPFK	C170 C170	1.840835	O75083 O75083	2
WNDNC*PSWNTIDPEER	C301 C301 C301 C301 C301 C301 C301	1.84065	P17655 P17655 P17655 P17655 P17655 P17655 P17655	3
VFIMDNC*EELIPEYLN FIR	C374 C496 C374 C496	1.839683043	P07900 P07900 P07900 P07900	3
EQHGVAASC*LEDLR	C38 C38 C38 C38 C38 C38	1.839185	O00273 O00273 K7ERT1 O00273 O00273 K7ERT1	2
ETNDDNYGPGPSLRPPNVAC*WR	C179 C177 C179 C177 C177 C177 C177 C179 C177 C177	1.832775	E7EPN9 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520 Q9Y520	2
VVFIKPTC*PY	C23	1.83202	P35754	2
KTSC*EFTGDILR	C112 C112 C112	1.83011	P21281 P21281 P21281	3
SNLQEIFLPAFPC*HER	C337 C337	1.82818	Q9NPG8 Q9NPG8	2
NYLEPGKEC*VQPATK	C997 C997 C997	1.827743333	P16615 P16615 P16615	3
GLESTTLADKDEIYC*K	C134 C130 C167 C167 C167 C167	1.827651818	E9PP21 E9PND2 P21291 P21291 P21291 P21291	3
LGVENC*YFPMFVSQSALEK	C1076	1.82752	P07814	2
IRPLNSEGLNLLNC*EPPR	C1517	1.826363333	Q9Y5S2	2
VLQNMEQC*QK	C366 C366 C365 C368 C366	1.82555	Q96ER3 Q96ER3 J3KND1 E9PRZ1 Q96ER3	3
GAVEKGEELSC*EER	C38 C38 C38 C38 C38 C38	1.824902143	P31947 P31947 P31947 P31947 P31947 P31947	3
EDSEELGLPDVNP MC*QRPR	C1239 C1239 C1239	1.822975	Q52LW3 Q52LW3 Q52LW3	3
AFGELC*PNTAPLQVLTEALQTGTTEWFHLK	C448 C448 C448 C448	1.82297	Q70J99 Q70J99 Q70J99 Q70J99	2
GDFYVIEAAC*DATYNEIVTLER	C109 C109 C109 C109 C109	1.821399	P51116 P51116 P51116 P51116 P51116	3
NTGIIC*TIGPASR	C49 C49 C49 C49	1.82126	P14618 P14618 P14618 P14618	2
AGDELAYNSSSAC*ASSR	C362 C239 C362 C239	1.82049625	Q86Y37 Q86Y37 Q86Y37 Q86Y37	2
EGTDSSQGIPQLVSNISAC*QVIAEAVR	C29 C29 C29 C29 C29	1.82021037	Q99832 Q99832 Q99832 Q99832 Q99832	3
IGYEC*LCPDGFQLVAQR	C338 C211 C170 C297 C338 C217 C423 C297 C338 C217 C423	1.819075	P01130 P01130 P01130 P01130 P01130 P01130 J3KMZ9 P01130 P01130 P01130 J3KMZ9	2
VFFIQAC*QGDNYQK	C345 C419 C377 C360 C345 C419 C377 C360 C276 C345 C419 C377 C360 C276	1.817995	Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790	3
ILYLDSS EICFP TPGC*PGAWDV DSEN PQR	C611 C621 C611 C621 C611 C621 C611 C621	1.81563	Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8	3
YC*VRPNSGIIDPGSTVTVSVM LQPFDYDPNEK	C60 C60 C60 C60	1.81327	Q9P0L0 Q9P0L0 Q9P0L0 Q9P0L0	3
SVLC*STPTINIPASPFMQK	C22 C22	1.81159	Q96KB5 Q96KB5	3

GNVAGDSKNDPPMEAGFTAQVIILNHPGQISAG YAPVLC*	C363 C363 C342 C342 C361 C361 C363 C363 C342 C342 C342 C342	1.809796	P68104 P68104 P68104 P68104 A0A087WV01 A0A087WV01 P68104 P68104 P68104 P68104 A0A087WVQ9 A0A087WVQ9	2
QSLLC*PK	C27 C27	1.808822	Q56VL3 Q56VL3	3
C*CILTEEGLLIPPK	C171 C30 C171 C30	1.80855	Q8WV24 R4GND3 Q8WV24 R4GND3	2
FQSSAVMALQEASEAYLVGLFEDTNLC*A	C111 C111 C111	1.807878824	Q71D13 Q71D13 Q71D13	3
C*YYSNTDAVIYVVDSCDRDR	C80 C80 C63 C80	1.807553333	F8VYN9 P40616 P40616 P40616	2
AKFENLC*K	C564 C564	1.80699	P08238 P08238	2
IINDNATYC*R	C211 C211	1.8069275	O00567 O00567	3
VGIGPGSVC*TTR	C186 C204 C204 C229 C186 C204 C204 C153 C187 C171 C186 C204 C204 C229 C186	1.8067875	Q9P2T1 Q9P2T1 H0YNJ6 H0YNH0 Q9P2T1 Q9P2T1 H0YNJ6 H0YMB3 F8WAN9 H0YLV5 Q9P2T1 Q9P2T1 H0YNJ6 H0YNH0 A0A087WWM4	3
FSLC*SDNLEGISEGPSNR	C568 C568 C568 C568 C568 C568 C568 C568 C568 C568 C568	1.806613333	Q14C86 Q14C86 Q14C86 Q14C86 Q14C86 Q14C86 Q14C86 Q14C86 Q14C86 C9IZ08 Q14C86	2
AAVEEGIVLGGGC*ALLR	C442 C442 C442 C442 C442 C442 C442 C442 C442 C442	1.805944815	P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809	3
AHQLVLPPC*DVIK	C279 C279 C279 C279 C354 C354	1.80569	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 F8W881	3
VVAENFDEIVNENKDVLIIFYAPWC*GHCK	C406 C406 C406	1.805252727	P30101 P30101 P30101	3
YDC*GEEILITVLSAMTEEAVAIK	C159 C129 C159 C129 C159 C129 C159 C129	1.805046	P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241	3
PEIVDTC*SLASPASVCR	C8 C8 C8	1.8032275	P09960 P09960 P09960	2
LFNC*SASLDWPR	C439 C439 C439 C397	1.803224	Q9Y4W2 Q9Y4W2 Q9Y4W2 Q9Y4W2	3
AAQDFSTC*R	C53 C59	1.80235	H0Y5R6 P06132	2
LAAPDPC*DPQR	C28 C28 C28 C28	1.8022	O60831 A6NP52 O60831 A6NP52	3
VC*TLAIIDPGDSDIIR	C92 C92 C92 C92 C92 C92 C92 C92 C92 C92	1.802094706	P62888 E5RI99 P62888 E5RI99 P62888 E5RI99 P62888 E5RI99 P62888 E5RI99	3
TVFAEHISDEC*K	C114 C114	1.797405	P39023 P39023	3
AFLERGHTELDTAFMYSQDQSETILGGLGLGLGG GDC*R	C88 C98	1.796795	H3BLU7 O43488	2
TPDTSTYC*YETAEK	C2041 C2041	1.7965975	P46821 P46821	3
PLGIC*LIIDCIGNETENAHSWIFTLNSMATCMIGT AEFLPR	C254 C254 C254	1.79581	O15519 O15519 O15519	3
HGEVC*PAGWKPGSETIIPDPAGK	C245 C245	1.794958	Q13162 Q13162	3
LLAIC*QPLTYSTR	C136 C136 C136 C136 C136 C136 C136 C136	1.790015	P47893 P47888 P47893 P47888	3

			P47893 P47888 P47893 P47888	
EAVFPFQPGSVAEVC*ITFDQANLTVK	C89 C89	1.789898571	P09382 P09382	3
VMGIVENMSGFTC*PHCTECTSVFSR	C196 C196	1.788981429	Q9Y5Y2 Q9Y5Y2	2
TPSYSISSTLNPQAPEFILGC*TASK	C142 C98 C94 C142 C98 C94 C142 C98 C94	1.78828	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	3
HEASDFPC*R	C32 C32	1.78796	P18031 P18031	2
EVPGSEARPEQEPVAEPVPC*TIFSQR	C160	1.78783375	Q8WVT3	3
AMAHCGSQEALIVGGVGC*NVR	C265 C265	1.787805	Q9NPF4 Q9NPF4	3
ESLNASIVDAINQAADC*WGIR	C121 C167	1.7856075	A0A087WYB4 Q9UJZ1	2
WTQTLSELDLAVPFC*VNFR	C188 C188 C188 C188	1.785348182	Q9Y266 Q9Y266 Q9Y266 Q9Y266	3
KSEAQHEQPEDGC*PFGALTQR	C255 C255 C255 C255 C255 C255	1.785305	O75528 O75528 O75528 O75528 O75528 O75528	3
C*KPVPLLELAEGQK	C73 C66	1.785125	Q8NHV4 Q8NHV4	2
ALANVNIGSLIC*NVGAGGPAPAAGAAPAGGPAP STAAAPAEK	C61 C61 C36 C61	1.783829565	P05386 P05386 P05386 P05386	3
VIGIEC*SSISDYAVK	C91 C101 C109 C95 C73 C119 C101	1.783326923	Q99873 Q99873 Q99873 Q99873 E9PKG1 H7C211 Q99873	3
GSDC*GIVNVNIPTSGAEIGGAFGGEK	C478 C450 C478 C478 C441 C450 C414 C414	1.78129	P49419 P49419 P49419 P49419 A0A140T9V3 P49419 F8VS02 P49419	3
GWSGNSWGGISLGPDPGPC*GETYEDFDTR	C211 C211 C211	1.77918	P82675 P82675 P82675	2
KTYITDPVSAPC*APPLQPK	C342 C364	1.77904	A0A087WZF1 Q93052	2
SLHDALC*VVK	C397 C397 C397 C397 C397	1.776735	P17987 E7ERF2 P17987 E7ERF2 P17987	3
GNFTLPEVAEC*FDEITYVELQKEEAQK	C648 C629 C648 C629 C648 C629 C648 C629 C648 C629	1.776476923	Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839	3
AFTEANDGSLC*LAMEYGGEK	C112 C112 C112	1.77552	Q96KB5 Q96KB5 Q96KB5	2
LTGEEVNSCVEVLLEEAKDLLSDWLDSTLGC*DV TDNSIFSK	C287 C287 C204 C217 C204 C287 C204 C217 C204	1.7734925	P49589 P49589 P49589 B4DKY1 P49589 P49589 P49589 B4DKY1 P49589	2
KLFAPQQILQC*SPAN	C230 C230 C230 C263	1.773332857	P04183 P04183 P04183 K7ERV3	3
SYC*NDQSTGDIK	C106 C106	1.772613333	P00492 P00492	3
VETNQDWSLMC*PNECPGLDEVWGEEFEK	C352	1.769883333	P23921	3
SEVEEVDFAWLC*K	C287 C384 C287 C384	1.76927	G5E9C7 P36507 G5E9C7 P36507	2
VGVGTC*GIADKPMQYQDTSK	C214 C214	1.767581538	O75940 O75940	3
LTVIDTPGFGDHINNENC*WQPIMK	C357 C211 C356 C368 C375 C357 C211 C356 C368 C375	1.76755	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	2
AC*QEQIEALLESLR	C247 C247 C247	1.763123333	P24385 P24385 P24385	3
SHSDNDRPNC*SWNTQYSSAYTSR	C166 C167 C166 C167 C166 C167	1.7623975	O75494 O75494 O75494 O75494 O75494 O75494	3

GLDYEGGGC*R	C691	1.760803333	O60568	2
TAC*TNFMMPYVTR	C177 C177	1.7603475	P45984 P45984	2
YGIC*MEDLIHEIYTVGKR	C186 C186 C186 C146	1.758242	P18124 P18124 P18124 A8MUD9	3
GSQMGTVQPIPC*LLSMPTR	C531 C559 C531 C559 C531 C559 C531 C559	1.757712353	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2	3
VLMVEEPSMNLEWLYGC*PPPYHTFEEPVYMK	C498 C498	1.7566	P00395 P00395	2
ETGANLAIC*QWGFDEANHLLLQNNLPAVR	C302 C264 C281 C302 C264 C281	1.755996667	P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1	3
EIVHIQAGQC*GNQIGTK	C12 C12	1.754316667	Q9BUF5 Q9BUF5	2
FIC*EQDHQNFLR	C658 C614 C658 C614 C658 C614	1.753334	Q92598 Q92598 Q92598 Q92598 Q92598 Q92598	3
ARDC*LIPMGITSENVAER	C50 C136 C177 C177 C50 C136 C177	1.75249	H0Y4D4 C9JDE9 P09110 P09110 H0Y4D4 C9JDE9 P09110	3
FC*AFGGNPPVTGPR	C152 C150 C152 C150	1.751883333	O15446 O15446 O15446 O15446	2
TQSPC*FGDDDDPAK	C256 C324 C344 C256 C324 C344 C324 C344	1.750798333	Q12765 Q12765 Q12765 Q12765 Q12765 Q12765 Q12765 Q12765	3
AFGGPGAGC*ISEGR	C24 C24	1.750696667	Q9H479 Q9H479	2
EQVPSLGSNVAC*GLAYTDYHK	C568 C568 C568	1.749758333	A1L0T0 A1L0T0 A1L0T0	3
GAC*YGADHDLGR	C534	1.7485	Q6NUM9	2
TSGSEDDNAEQAELEPGWVVLQDPDAAC*HLQ QQQEPLPPGWEER	C182 C182	1.74668	P46934 P46934	2
THEDLYIIPINC*DR	C104 C204 C104 C204 C104 C204	1.74383125	P22692 P22692 P22692 P22692 P22692 P22692	3
TRDGSYEGWC*WPGSAGYPDFTNPTMR	C502 C524 C502 C524	1.743498333	Q14697 Q14697 Q14697 Q14697	3
LTVVDTPGYGDAINC*R	C122	1.743479167	C9JQJ4	3
RLDEC*EEAFQGTK	C103 C92 C31 C36 C92 C103 C92 C31 C36 C92 C103 C92 C31 C36 C92 C103 C92 C31 C36 C92 C103 C92 C31 C36 C92 C92 C103 C92 C31 C36 C92 C92 C103 C92 C31 C36 C92 C92	1.741876316	P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289 K9J957 P61289 P61289 B3KQ25 K7ESG5 P61289 K9J957 P61289 P61289 B3KQ25 K7ESG5 P61289 K9J957	3
YGDLDSSLISFGPC*QTPTLGFCVER	C217 C217 C217 C217 C217 C217 C217	1.740528333	C9JEI7 O95985 O95985 O95985 O95985 O95985 O95985	3
LPACVVDC*GTGYTK	C12 C12	1.74016	P61158 P61158	2
NWISQLQMHAYC*ENPDIVLCGNK	C123 C123 C123 C123 C123 C123 C123	1.737604	P51159 H3BN55 P51159 H3BN55 P51159 P51159 H3BN55	2

NVTQIEPFC*LETDRR	C594 C630 C594 C630	1.737476667	Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0	2
DVQIGDIVTVGEC*RPLSK	C131 C131 C131 C131 C131 C131 C131 C131	1.7373595	P62280 P62280 P62280 P62280 P62280 P62280 P62280 P62280	3
ERPTPSLNNNC*TTSEDSLVLVYNR	C744 C744 C744	1.735322	P07814 P07814 P07814	3
TGLC*YLPEELALQK	C35 C46 C35 C46	1.73385	Q13045 Q13045 Q13045 Q13045	2
LVVPATQC*GSLIGK	C109 C109 C109 C109 C109 C109	1.733629286	Q15365 Q15365 Q15365 Q15365 Q15365 Q15365	3
SWC*PDCVQAEPVVR	C43 C43 C43 C43 C43	1.731608095	Q9BRA2 Q9BRA2 Q9BRA2 Q9BRA2 Q9BRA2	3
QNLFQTGSNVSFSC*GGETR	C203 C203 C203 C203 C203 C203 C203 C203 C203 C203 C203 C203	1.731422	Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5	3
AVAILC*NHQR	C630 C630	1.73103	P11387 P11387	2
C*DQDAQNPLSAGLQGAQLMETVELLQAK	C245 C124 C242 C240 C245 C124 C242 C240	1.73004	Q13561 H0Y198 Q13561 Q13561 Q13561 H0Y198 Q13561 Q13561	2
LTHNCLNFDFIGTSTDESSDDL*TVQIPTSWR	C244 C245 C244 C245 C244 C245	1.7295225	Q9UIA9 E7ESC6 Q9UIA9 E7ESC6 Q9UIA9 E7ESC6	3
KDDYEYC*MSEYLR	C40 C40 C40 C40	1.72925	P53611 P53611 P53611 P53611	3
IPGGIIEDSC*VLR	C213 C175 C168 C213 C175 C168 C213 C175 C168	1.728683333	P49368 P49368 B4DUR8 P49368 P49368 B4DUR8 P49368 P49368 B4DUR8	3
ECISIHVGQAGVQIGNAC*WELYCLEHGIQPDGQ MPSDK	C20 C20 C20 C20 C20 C20 C20	1.728015	P68363 Q71U36 Q9BQE3 Q13748 P68363 Q71U36 Q13748	3
TIGGGDDSFTTFFC*ETGAGK	C54 C54 C54 C54 C56 C56 C54 C54 C54	1.726181053	P68366 P68366 P68366 P68366 C9JDL2 C9JDL2 P68366 P68366 P68366	3
C*ALMEALVLISNQFK	C646 C646	1.72527	Q9HAV4 Q9HAV4	2
ALVDGPC*TQVR	C42 C42 C42 C42 C42 C42 C42 C42	1.724462	E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914	3
TSC*GSPNYAAPEVISGR	C185 C200 C174 C174 C174 C174 C185 C200	1.723105	Q13131 Q13131 A0A087 P54646 A0A087 P54646 Q13131 Q13131	3
AYPVSGC*FDYLSLDPDTHIGGR	C1079 C1079	1.722095	Q9BTC0 Q9BTC0	2
VC*ENIPIVLCGNK	C108	1.72111	F5H018	2
SAMSEIEGIQSLIC*R	C541 C633 C699 C541 C633 C699	1.72085	Q6ZSZ5 A0A087WZG4 Q6ZSZ5 Q6ZSZ5 A0A087WZG4 Q6ZSZ5	2
FSPLCQWLYLEAADIVESLGKPEC*EEFLPR	C433	1.715976667	A0AVT1	3
ADVSVLFFDC*NNEICIER	C122	1.709655	P30085	2
KPAFTEASC*PLSR	C684 C926 C860 C684 C926 C860 C684 C926	1.70857	O15357 O15357 A0A0A0MTP6 O15357 O15357	3

			A0A0A0MTP6 O15357 O15357	
YKWC*EYGLTFTEK	C76 C76 C76 C76 C76 C76	1.708535556	A0A0A0MR02 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880	3
LC*YVGYNIEQEQQ	C221 C166 C226	1.708445	P61160 F5H6T1 P61160	2
SPGVVISDDEPGYDLDFC*IPNHYAEDLER	C23 C23 C23 C23	1.70786375	P00492 P00492 P00492 P00492	2
VVMALGDYMGASCHAC*IGGTNVR	C134	1.706225625	P60842	3
VILITPTPLC*ETAWEEQCIQGCK	C24 C117 C137	1.706094167	Q2TAA2 H7C5G1 Q2TAA2	3
ECEHC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C127	1.704935	Q9BUF5	3
EC*LPLIIFLR	C41 C41 C41 C41 C41 C41 C41 C41 C41	1.702264	P62701 P62701 P62701 P62701 P62701 P62701 P62701 P62701 P62701	3
AENGLLMTPC*YTANFVAPEVLKR	C579 C559 C564 C584 C575 C483 C579 C559 C564 C584 C575 C483 C559 C564 C584 C575 C483 C579	1.700842222	P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418 Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812	3
RPLNPLASGGTSEENTFYSWLEGLC*VEK	C241 C241 C241 C481 C556 C481 C556	1.699821818	Q96HE7 Q96HE7 Q96HE7	3
SQMYSTDYDQILPDC*YSWPPEEVQK	C481 C556 C481 C556	1.697861429	P48163 P48163 P48163 P48163	3
YTIVVSATASDAAPLQYLAPYSGC*SMGEYFR	C294 C244 C272 C294 C244 C272 C294 C244 C272 C294 C244 C272	1.6978255	P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705	3
IDPTVTMMQVEEKPDVTYSVGGC*K	C180 C180	1.6976	P35998 P35998	2
DLAVVTQSAEAPAEEDLLGPNC*YYDK	C310 C230 C310 C310 C230 C310 C310 C230 C310	1.69757	Q5TBP9 Q5TBP9 Q5TBP9	2
DIPDGATVLVGGFGLC*GIPENLIDALLK	C67 C67	1.69698	P55809 P55809	2
VTDGALVVDCVSGVC*VQTETVLR	C136 C136 C136 C136 C136 C136 C136	1.696510833	P13639 P13639 P13639 P13639 P13639 P13639 P13639	3
NLSFFLTPPC*AR	C492 C494 C492 C492 C494 C492 C492 C494 C492	1.695126364	P42224 J3KPM9 P42224 P42224 J3KPM9 P42224 P42224 J3KPM9 P42224	3
ITALMVSC*NR	C1155 C1146 C1141 C998 C1145 C1155 C1146 C1141 C998 C1145	1.694406667	O60271 A0A087 O60271 O60271 O60271 O60271 A0A087 O60271 O60271 O60271	2
AQLVEIVGC*HFR	C184 C184	1.69406	O75446 O75446	2
ESESCD*LQGFQLTHSLGGGTGSGMGTLLISK	C129 C129 C129	1.69403	Q9BVA1 Q9BVA1 Q13885	3
VLPNLPC*VVQEGAIVMAR	C129 C141 C229 C192 C229 C192 C229 C170 C192 C229 C170 C192	1.69304	Q53H96 A0A0A0MQS1	3
GAFC*DLVWSDPEDVDTWAIWSPR	C229 C192 C229 C192 C229 C170 C192 C229 C170 C192	1.69045	O00743 O00743 O00743 O00743 O00743 O00743	2

			O00743 O00743 O00743 O00743	
APELLGC*K	C177 C177 C177 C177 C177 C177	1.690374	G3V5T9 P24941 G3V5T9 P24941 G3V5T9 P24941	3
CPEALFQPSFLGMESC*GIHETTFNSIMK	C272 C272	1.688132778	P60709 P63261	3
AYHEQLSVAEITSSC*FEPNSQMVK	C295 C319 C229 C295 C319 C229 C295 C319 C229 C53 C53 C295 C319	1.68718875	Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 V9GZ17 V9GZ17 Q9NY65 C9J2C0	3
SC*SSSCAVHDLIFWR	C42 C42 C42	1.6862975	O95197 O95197 O95197	3
SC*LSPKPPQGGQEQGQDEVVLEGPPLPETP R	C232 C232 C232	1.68513	Q8NCF5 Q8NCF5 Q8NCF5	3
ETTSHNSLTTPC*YTPYYVAPEVLGPEK	C224 C224 C224 C224	1.6796875	P49137 P49137 P49137 P49137	2
YQAEINDLENLGMGSGTC*GQVWK	C174 C131 C147 C174 C131 C147 C174 C131 C147 C174 C131 C147	1.679572857	O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733	3
DCIGGC*SDLVSLQQSGELLTR	C83 C83	1.679195	P35754 P35754	2
EENVGLHQTLDQTLNELNC*I	C283 C109 C247 C283 C109 C247	1.6764175	P67936 K7EPB9 P67936 P67936 K7EPB9 P67936	2
SAQASVSC*ALEALEPFWEVLVR	REVERSE C426 C274 C426 C274	1.67604	Q9UBN7 Q9UBN7 Q9UBN7 Q9UBN7	2
STDRLPSAHTC*FNQLDLPAYESFEK	C4325 C4332 C4341	1.67588	Q7Z6Z7 Q7Z6Z7 Q7Z6Z7	2
NESC*SENYTTDFIYQLYSEEGK	C641	1.675234667	Q01813	3
AQQEQLLLQKQLQQQQQPPSQLC*TAPASSHE R	C385 C527 C296 C385 C527 C345 C385 C527 C296 C385 C527 C345 C385 C527 C296 C385 C527 C345	1.674641429	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5	3
GYGGNSATAGYSDFFTDC*YGYHDFGSS	C693 C697	1.672565	P01769 Q12906 Q12906	2
MAAISESNINLCGSHC*GVSIGEDGPSQMALEDL AMFR	C425 C417 C417	1.669104211	P29401 P29401 P29401	2
QPAIMPQGSYGLEDGSC*SYKDFSESR	C413 C472	1.668236667	P14866	3
LGTDESC*FNMILATR	C363 C341	1.667860909	P20073 P20073	3
YC*AAPTEPVIHNGSQGTGTNGSEISDSYQAEY PDEYHGEYQDDYPR	C273	1.66753	Q15417	2
INISEGNC*PER	C54 C54	1.6668475	Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15365 Q15365 Q15365 Q15365 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15365 Q15366 Q15366 Q15366 Q15366	3
AINC*ATSGVWGLVNCLR	C1448 C1448 C1448 C1448 C1448	1.665802105	P49327 P49327 P49327 P49327 P49327	3

IGLIQFC*LSAPK	C252 C222 C252 C222 C252 C222 C252 C222	1.665428571	P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991	3
FSFCC*SPEPEAEAEAAAGPGPCER	C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27	1.6643425	E3W990 E3W990 E7EMC7 Q13501 E7EMC7 Q13501 E3W990 E3W990 Q13501 Q13501 E7EMC7 Q13501 E7EMC7 Q13501	3
LTPGC*EAEAEAEICFFVQQFTDMEHNR	C2359 C2359 C2359 C2359 C2359 C2359	1.66385	P49327 P49327 P49327 P49327 P49327 P49327	3
DFGYGVEEEEEEAAAAGGGVGAGAGGGC*GPG GADSSKPR	C52 C52 C52	1.661948	Q9HB90 Q9HB90 Q9HB90	3
VSC*LGVTDDGMAVATGSWDSFLK	C317 C317 C317 C317	1.66005	P62873 P62879 P62879 P62873	2
CEYPAAC*NALETLIHR	C610 C612 C610 C612 C610 C612	1.655412	P54886 P54886 P54886 P54886 P54886 P54886	2
IHESAGLPFFEIVDAPLNIC*ESR	C155 C155 C155	1.653877778	O95340 O95340 O95340	3
SGLTPNDIDVIELHDC*FSTNELLTYEALGLCPEG QGATLVDR	C307 C307 C307	1.6508475	P22307 P22307 P22307	3
YAIC*SALAASALPALVMSK	C125 C125	1.6493725	P36578 P36578	3
EEC*PVFTPPGGETLDQVK	C55 C114 C55 C114	1.649135714	A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88	2
VPLDVAC*AR	C3295 C3181 C3295 C3295 C3185 C3162 C3181 C3144 C3126 C3158 C3136 C3158	1.6453975	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	3
DC*GGAAQLAGPAEADPLGR	C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8	1.644224	A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPP9 A0A096LNN8 A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPP9 A0A096LNN8	2
IIPGFMC*QGGDFTR	C62 C62 C62	1.641820833	P62937 Q9Y536 P62937	3
TC*NVLVALEQQSPDIAQGVHLDR	C104 C104 C104	1.640484545	P31153 P31153 P31153	3
LGPRPLPTFPTSEC*TSDVEPDTR	C73 C73 C73 C73	1.6400175	Q8TDD1 Q8TDD1 Q8TDD1 Q8TDD1	2
FHADSVK	C25 C25	1.63965	Q9BW61 Q9BW61	2
NESCSNYTTDFIYQLYSEEGKGVFDC*R	C664 C664 C664 C664	1.63906	Q01813 Q01813 Q01813 Q01813	3
ESGC*SWHGGPDGLYEYLRPSGTPAR	C421 C472 C421 C472	1.638765	Q8IZ83 Q8IZ83 Q8IZ83 Q8IZ83	2
C*CSGAIIVLTK	C423 C423 C349 C423	1.637053333	P14618 P14618 B4DNK4 P14618	3
VADSSPFALELLISDDCFVLDNGLC*GK	C275 C290 C275 C290 C275 C290 C275 C290	1.636898	P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121	3
STLTDSLVC*K	C41 C41 C41 C41	1.636624286	P13639 P13639 P13639 P13639	3

YEAAFPFLSPC*GR	C143 C98 C143 C98	1.636122	H0YF29 H0YF29	3
VTAVDWHFEEAVDGECP*PPQR	C1374 C1374	1.635746667	P27708 P27708	2
IIQFQATPC*PK	C298 C299 C300 C224 C313 C278 C299 C238 C298 C299 C300 C224 C313 C278 C299 C238 C298 C299 C300 C313 C278 C299	1.634801429	Q06330 D6R927 Q06330 Q06330 Q06330 Q06330 Q06330 D6R927 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 D6R927 Q06330 Q06330 Q06330 Q06330	3
ETYC*IDNEALYDICFR	C183 C201 C201 C201 C201 C548 C201	1.633523067	Q5JP53 P68371 Q9BUF5 P04350 Q9BVA1 A0A0B4J269 Q13509	3
EGLLLWC*QR	C154 C154 C173 C173 C154 C154 C154	1.6308425	P12814 P12814 O43707 O43707 P12814 P12814 P12814	2
AFTKPEEAC*SFILSADFPALVVK	C134 C134 C134	1.630634286	P22102 P22102 P22102	3
LLLAGYDDFNC*NVWDALK	C294 C294	1.62856	P62873 P62873	2
ITAFVPNDGC*LNFIENDEVLVAGFGR	C90 C90	1.6282675	D6RD47 P62266	3
SSEC*MKDDPITLFVALSPQGTAAQGELFLDDGHT FNYQTR	C822 C844 C822 C844	1.626165	Q14697 Q14697 Q14697 Q14697	2
ATVAPEDVSEVIFGHVLAAGC*GQNPVR	C65 C65 C65 C65	1.62235	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	3
LPC*EMDAQGPK	C196 C187 C196 C187 C196 C187	1.622065714	Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8	3
SQSPAASDC*SSSSSASLPSSGR	C121 C179	1.62143	C9JFK9 O95817	2
ENFDEVVNDADIILVEFYAPWCGHC*KK	C209 C209 C209	1.62133	P13667 P13667 P13667	3
FMPVIQDNPSGWGPC*AVPEQFR	C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19 C19	1.620419231	O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371 O15371	3
AVASQLDC*NFLK	C193 C207 C193 C207 C193 C207	1.620157143	P62333 A0A087 P62333 A0A087 P62333 A0A087	3
SCYDLSC*HAR	C471	1.618196667	P41250	2
LTSSVSC*ALDEAAAALTR	C181 C181 C181 C181 C210 C95 C97 C210 C210	1.61675	Q8IWZ3 Q8IWZ3 E9PDP5 Q8IWZ3 O75179 H0YM23 O75179 O75179 O75179	2
NEMNC*KEDQFQLSLLAAMGNTQR	C684	1.613982	P53618	3
VSMILQSPAFC*EELESMIQEKFKK	C68 C68 C68 C68 C68 C68 C68 C68	1.613896667	P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611	2
NAGNC*LSPAVIVGLLK	C335 C369 C335 C369 C335 C369	1.6130175	Q5SZU1 O43175 Q5SZU1 O43175 Q5SZU1 O43175	3
QVLVAPGNAGTAC*SEK	C41	1.61059	P22102	2
IISNASC*TTNCLAPLAK	C152 C152 C152 C152 C152 C152 C152 C152 C152 C152	1.610146111	P04406 P04406 P04406 P04406 P04406 P04406	3

			P04406 P04406 P04406 P04406	
AGQC*VIGLQMGTNK	C185 C153 C164 C101	1.608633529	B4DUT8 B4DDF4 Q99439 A0A087	3
LSNVAPPC*ILR	C182 C182 C167	1.60863	C9JB30 Q9UPY8 Q9UPY8	2
IAVAAQNC*YK	C67 C104 C67 C104	1.605353333	P60174 P60174 P60174 P60174	3
EACPELDYFVVFSSVSC*GR	C2024 C2024 C2024	1.604128571	P49327 P49327 P49327	2
MYGISLC*QAILDETKGDYEK	C324 C324 C324 C324 C324 C324	1.603977692	P04083 P04083 P04083 P04083 P04083 P04083	3
TVPFC*STFAAFFTR	C394 C386 C386 C386	1.600924286	P29401 P29401 P29401 P29401	3
ASHIQLDSLPEVPLLVDVPC*LSAQLDDSilNIVK	C154 C150 C154 C150	1.599765	Q8IU18 Q8IU18 Q8IU18 Q8IU18	2
SRPNASGGAAC*SGPGPEPAVFCEPVVK	C108 C108 C108 C108	1.598683333	Q6L8Q7 Q6L8Q7 Q6L8Q7 Q6L8Q7	2
SEGGFIWAC*K	C269 C269 C269	1.597907143	O75874 O75874 O75874	3
SASASPLTPC*SVTR	C373 C341 C336 C373 C341 C336	1.59377	Q3KQU3 Q3KQU3 Q3KQU3 Q3KQU3 Q3KQU3 Q3KQU3	2
NAVIPQYQALFMSMDKC*ELNVTEDALK	C538	1.59315	O76031	2
QMEKDETVSDC*SPHIANIGR	C206 C206	1.591733333	P47756 P47756	3
SCSSSC*AVHDLIFWR	C46 C46 C46	1.586952222	O95197 O95197 O95197	3
TMVNLALENAC*DEATYQLGLDMEELIEEDAG LGNGGLGR	C109 C109	1.585538	P11217 P11217	2
GVAQTPGSVEEDALLC*GPVSK	C79 C79 C79 C79	1.585343333	Q5QPE7 Q5QPE8 Q9BQP7 Q9BQP7	2
HEFSVDMTC*GGCAEAVSR	C12	1.585236	O00244	3
VNIEGGAIALGHPLGASGC*R	C360 C360	1.583315	Q9BWD1 Q9BWD1	2
KPNVGC*QQDSEELLK	C347 C347	1.581918571	A0AVT1 A0AVT1	2
LLSNMMC*QYR	C156 C160 C160 C156 C160 C160 C156 C160 C160	1.581697	P28062 P28062 P28062 P28062 P28062 P28062	3
AC*FEPANQMVK	C295 C295 C295 C260 C295 C295	1.579648561	P68363 Q71U36 Q9BQE3 Q71U36 P68366 Q13748	3
ECPSDEC*GAGVFMASHFDR	C126 C126 C126 C126 C126	1.578896	P62979 P62979 P62979 P62979 P62979	3
LC*PGGQLPFLLYGTEVHTDTNK	C59 C59 C59	1.57844125	O00299 O00299 O00299	3
KNDFYSYEPSENPPPETGESVC*LQLK	C125 C125 C125 C92 C92 C125 C125 C92 C125 C125 C125 C92 C92 C125 C125 C92	1.577137143	A0A087WYJ3 Q16342 F5H4V9 Q16342 Q16342 J3QK82 Q16342 Q16342 A0A087WYJ3 Q16342 F5H4V9 Q16342 Q16342 J3QK82 Q16342 Q16342	3
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C198 C173 C73 C132 C87 C198 C198 C173	1.575	M0R383 M0R0Y4 M0QYS6 Q03405 Q03405 M0QYR6 M0R383 M0R0Y4 M0QYS6 Q03405 Q03405 M0QYR6	3
IIHEDGYSEEEC*R	C50 C66 C50 C29 C66 C14 C50 C66 C50 C29 C66 C14	1.574925	P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899	2

NSFYMGTC*QDEPEQLDDWNR	C1907 C1893 C1891 C756	1.57412	Q14980 Q14980 A0A087WY61 H0YFY6	3
TENTIFSSTTLPRPGDPGAPPLPDLQLEEEGTC* ANSSEMFLPLR	C215	1.573103333	O95999	2
VLGAHILGPGAGEMVNEAALALEYGASC*EDIAR	C429 C477 C454 C378 C429 C477 C454 C378 C429 C477 C454 C378 C429 C477 C454 C378	1.572898	P09622 P09622 P09622 P09622 P09622 P09622 P09622 P09622 P09622 P09622	3
GATVLPANTPGNVGSGKDQCC*SGK	C344 C344	1.57068	P22059 P22059	2
C*MPTFQFFK	C73 C73 C73	1.569971667	P10599 P10599 P10599	3
EGGQYGLVAAC*AAGGQGHAMIVEAYPK	C458 C436 C458 C436 C443 C458 C436	1.56989625	P55084 P55084 P55084 P55084 F5GZQ3 P55084 P55084	3
SYC*AEIAHNVSCK	C96 C96 C114 C96 C96 C114 C96 C96 C114 C96 C96 C114 C96 C96 C114	1.569087333	D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727	3
SEGTYC*CGPVPVR	C370 C370	1.568663333	P21980 P21980	3
ADIIHAC*DIVEDAAIAYGYNNIQMTLPK	C362 C362 C362	1.56674	Q9NSD9 Q9NSD9 Q9NSD9	2
AQC*PIVER	C87 C66 C66 C87 C66 C66	1.566465	M0R0R2 M0R0F0 P46782 M0R0R2 M0R0F0 P46782	3
VTFSC*AAGFGQR	C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118	1.56517875	Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203	3
AFQYVETHGEVC*PANWTPDSPTIKPSAASK	C211 C229 C211 C229	1.563273571	P30048 P30048 P30048 P30048	3
AHSNPDFLPVDNC*LQSVLGQR	C798 C703 C798 C703 C798 C703 C798 C703 C798 C703	1.562562308	Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9	3
ENSTLNC*ASFTAGIVEAVLTHSGFPAK	C139 C139 C139	1.562286	Q8IUR0 Q8IUR0 Q8IUR0	3
LTEGC*SFR	C77 C77 C77 C93 C77 C77 C93	1.561901667	P42677 P42677 Q71UM5 H0YMV8 P01769 P42677 Q71UM5 H0YMV8	3
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498	1.561636364	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7E004 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7E004 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7E004 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637	3

	C622 C466 C662 C575		Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637	
YATTGKC*ELENCQPFVETLHGK	C100 C100	1.561207778	Q06203 Q06203	3
IHMGC*AENTAK	C196	1.55985	P24752	2
FASGGC*DNLIK	C190 C233 C173 C187 C190 C233 C173 C173 C187	1.55845	A0A0C4DFR6 P55735 P55735 P55735 A0A0C4DFR6 P55735 P55735 P55735	2
LEFSIYPAPQVSTAVVEPYNSILTTHHTLEHSDC*A FMVDNEAIYDICR	C200 C200 C200 C200 C200 C200 C165 C165 C200 C200 C200 C200 C200 C200 C200 C200 C200 C200 C200	1.555943571	P68363 P68363 Q71U36 Q71U36 Q9BQE3 Q9BQE3 Q71U36 Q71U36 P68366 P68366 P68363 Q71U36 P68366 P68363 P68363 Q71U36 Q71U36 P68366 P68366	3
FVVDV/DKNIDINDVTPNC*R	C112 C104 C104 C104 C104 C112 C104 C104 C104 C104 C112 C104 C112 C104 C112 C104 C104 C112 C104 C104	1.553956667	P62195 J3KRP2 J3QSA9 J3QLH6 P62195 P62195 J3KRP2 J3QSA9 J3QLH6 P62195 P62195 P62195 P62195 P62195 P62195 J3QSA9 P62195 P62195 J3QSA9 P62195	3
EC*ISIHVGQAGVQIGNACWELYCLEHGIQPDGQ MPSDK	C4 C4 C4 C4 C4 C4 C4	1.55215	P68363 Q71U36 Q9BQE3 Q13748 P68363 Q71U36 Q13748	3
TQYSCYC*CK	C238 C229 C238 C229	1.552033333	Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8	2
PVMSGNTAYPVISC*PPLTPDWGVQDVWSSLR SSGGFVWAC*K	C350 C350 C350 C350 C350	1.55176	P22234 E9PBS1 P22234 E9PBS1 P22234	2
AYC*DMEAGGGGWIIQRR	C312 C313 C261 C312 C312 C313 C261 C312	1.54998	O15123 O15123 O15123 E7EVQ3 O15123 O15123 O15123 E7EVQ3	2
FDPTQFQDC*IIQGLTETGTDLEAVAK	C39 C67 C35 C39 C67 C35 C39 C67 C35 C39 C67 C35	1.5493435	Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6 Q7L1Q6	3
LTALDYHNPAGFNC*KDETEFR	C19 C19	1.549313	Q9Y224 Q9Y224	3
YGAVDPLLALLAVPDMSSLAC*GYLR	C223	1.548448571	P52292	2
CC*SGAIIVLTK	C424 C424 C350 C424	1.548366667	P14618 P14618 B4DNK4 P14618	2
YSDVEVPASVTGYSFASDGDGSGTC*SPLR	C430 C430	1.548198	P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611	3

			P35611 E7EV99 E7ENY0 P35611 P35611 P35611 P35611	
FC*FTPHTTEEGCLSER	C1118 C1118	1.547822	P49327 P49327	2
VQEAPIDEHWIIEC*NDGVFQR	C91 C91 C91 C91 C91 C91 C91 C91 C91 C91 C91 C91	1.547443846	Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353 Q14353	3
DAWASPC*HSYPLVATR	C374 C374 C374	1.547186667	Q13425 Q13425 Q13425	3
YKDLEQQDC*EIAQEIQEK	C85 C85 C85 C85	1.546513333	Q8IVM0 Q8IVM0 Q8IVM0 Q8IVM0	2
GIGMNEPLVDC*EGYPR	C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59	1.546215385	O00233 J3KN29 O00233 F5H5V4 O00233 J3KN29 O00233 F5H5V4	3
QPPWC*DPLGPFVGGEDLDPFGPR	C185 C185 C185 C185 C185 C185	1.54573	Q5QPM7 Q92530 Q5QPM7 Q92530 Q5QPM7 Q92530	3
SGQGAFGNMC*R	C96 C96 C96 C96	1.54432375	P36578 P36578 P36578 P36578	3
NC*LTNFHGMDLTR	C96 C59 C76 C59 C96 C76 C96 C76 C96 C59 C76 C59	1.543927778	P61247 D6RAT0 D6RG13 D6RB09 P61247 D6RG13 P61247 D6RG13 P61247 D6RAT0 D6RG13 D6RB09	3
VIEINPYLLGTMSGC*AADCQYWER	C116 C120 C120 C116 C120 C120	1.543781111	P28062 P28062 P28062 P28062	3
VGLGIC*YDMR	C153 C153 C153 C247	1.543364444	Q9NQR4 Q9NQR4 Q9NQR4 H7C579	3
C*HDYYTTEFLYNLYSSEGK	C630 C630	1.54282125	P17858 P17858	3
GC*LLYGPPGTGK	C170 C184 C170 C184 C170 C184 C170 C184	1.54274625	P62333 A0A087 P62333 A0A087 P62333 A0A087 P62333 A0A087	3
ETTQNALQTPC*YTPYYVAPEVLGPEK	C203 C203 C203 C203	1.540738333	C9J8E1 Q16644 C9J8E1 Q16644	3
EADQKEQFSQGSPSNC*LETSLAEIFPLGK	C102 C161 C102 C161 C102 C161 C102 C161 C102 C161	1.540205333	A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88	3
TSAPITC*ELLNK	C1999 C1999	1.53979	Q14204 Q14204	2
YINENLIVNTDELGRDC*LINAAK	C147 C147 C147 C147 C147 C147 C147	1.53867625	P17987 E7ERF2 P17987 E7ERF2 E7ERF2 P17987 P17987	3
GLYGIKDDVFLSVPC*ILGQNGISDLVK	C293 C322 C293 C322 C293 C322 C293 C322	1.538574615	P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338	3
QLFALSC*TAEQGVLPDDLGVIR	C96 C112 C96 C75 C112 C60	1.53715375	P04899 P04899 P04899 P04899 P04899 P04899	3
GMLLGVDGHAGC*ACSQAVSER	C174 C149 C174 C149	1.53604	Q9P0J1 Q9P0J1 Q9P0J1 Q9P0J1	2
VEEEDDAEHVLLALTMLCLTEGAKDEC*NVVEVVAR	C79	1.535465	O75607	2

GNLYSFGC*PEYGQLGHNSDGK	C280 C280 C280	1.534924	Q9P258 Q9P258 Q9P258	3
SSLPEFQAAPAEPEPEPGEPLLQVTLVDC*PGHAS LIR	C93 C66 C93 C66	1.533665	P57772 P57772 P57772 P57772	2
EMFPYEASTPTGISASC*R	C363 C323 C254 C363 C323 C363 C323	1.531835	P42167 G5E972 P42167 P42167 G5E972 P42167 G5E972	3
VC*ISILHAPGDDPMGYESSAER	C89 C61 C89 C61 C89 C61 C89 C61	1.53146	P60604 P60604 P60604 P60604 P60604 P60604 P60604 P60604	3
IIDLEEAEDIEDIQQEITVLSQC*DSPYVTK	C89 C77 C77 C89 C77 C77	1.52814125	Q9Y6E0 B4DR80 Q9Y6E0 Q9Y6E0 B4DR80 Q9Y6E0	3
VLGLGLGC*LR	C88 C75 C88 C88 C75 C88 C88	1.526303333	Q9BRJ7 K7EIN2 Q9BRJ7 K7ENA3 K7EIN2 Q9BRJ7 W4VSQ8	2
NIC*FTVWDVGGQDR	C62 C62 C62 C62 C62 C62 C62 C62	1.525261	P18085 P18085 P18085 P18085 P18085 P18085 P18085 P18085	3
TFC*GTPEYLAPEVLEDNDYGR	C310 C248 C307 C307 C311 C249 C310 C248 C310 C248 C311 C311 C307 C307 C307 C307 C310 C248 C310 C248 C310 C248 C311 C311 C311 C307 C307 C307 C307 C307 C307	1.5229405	P31749 P31749 Q9Y243 Q9Y243 P31751 M0R0P9 P31749 P31749 P31749 P31749 P31751 P31751 Q9Y243 Q9Y243 Q9Y243 Q9Y243 P31749 P31749 P31749 P31749 P31749 P31749 P31751 P31751 P31751 Q9Y243 Q9Y243 Q9Y243 Q9Y243 Q9Y243 Q9Y243	3
TVLGC*GQPADK	C479 C492 C561 C591	1.522506667	P02545 P02545 P02545 P02545	2
TIC*AILENYQTEK	C438 C460 C438 C460	1.522225	P49591 Q5T5C7 P49591 Q5T5C7	3
HYLDQLNHILGILGSPSQEDLNC*IINLK	C254 C254	1.521443333	P28482 P28482	2
DLQPFPTC*QALVYR	C292 C404 C404	1.5191875	Q14137 Q14137 Q14137	2
NC*GC*LGASPNLEQLQEENLK	C32 C34	1.5191325	P54136	3
LC*DFGVSQLIDSMANSFVGTR	C114 C211 C114 C211 C181 C207 C181 C207 C181 C207 C181 C207 C114 C211 C114 C211 C114 C211 C207	1.518732143	G5E9C7 P36507 G5E9C7 P36507 Q02750 Q02750 Q02750 Q02750 Q02750 Q02750 Q02750 Q02750 G5E9C7 P36507 G5E9C7 P36507 G5E9C7 P36507 Q02750	3
LVC*PAAYGEPLQAAASALGAAVR	C110 C110 C110	1.518403333	P23610 P23610 P23610	3
C*FSIDNPGYEPEVVAVHPGGDTVAIGGVDGNVR	C438 C438	1.518326667	O75083 O75083	2
APVPSTC*SSTFPEELSPPSHQAK	C160 C160 C160 C160 C160 C160 C160	1.51735	Q14980 Q14980 A0A087WY61 Q14980 Q14980 Q14980 A0A087WY61	3
EEEVSC*SGPLSQK	C203 C203 C203	1.5163375	F5H0F9	3
LSIQC*YLSALDR	C224 C224	1.512985	Q01581 Q01581	2

C*EILQSDSR	C288 C288 C288	1.51209	Q14145 Q14145 Q14145	3
LC*WFLDEAAAR	C237 C237	1.5115475	O95336 O95336	2
TC*FETFPDKVAIQLNDTHPALSIPELMR	C326 C326 C326	1.511540714	P11216 P11216 P11216	3
AFPQLGGRPGPEGEGSLESQPPPLQTQAC*PES SCLR	C79	1.51022	O94992	2
NAFAC*FDEEATGTIQEDYLR	C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C109 C109 C109 C109	1.5094855	J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 O14950 O14950 O14950 O14950	3
LWNEWC*R	C106 C106 C106 C106 C106 C106	1.50943	O95456 O95456 O95456 O95456 O95456 O95456	3
YEQGTGC*WQGPNR	C471 C468 C143 C478 C471 C468 C143 C478	1.50838	P14314 P14314 A0A0C4DGP4 K7ELL7 P14314 P14314 A0A0C4DGP4 K7ELL7	2
FTSC*VAFFNILNELNDYAGQR	C69 C69	1.5079575	S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5	3
LANLAATIC*SWEDDVNHSAK	C210 C210 C210 C210 C210 C210	1.5074	Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6	3
NEANQPLC*LPALLIYTEASDYIPDDHQDYAEALIN PIK	C834 C767 C834 C767 C834 C767	1.507305	Q01970 Q01970 Q01970 Q01970 Q01970 Q01970	3
EKHEEFCVPMVMVPATVSNVPGSDFSIGADTA LNTITDTC*DR	C563 C563	1.506640263	Q01813 Q01813	3
LC*LNICVGESGDR	C20 C21 C19 C20 C21 C19	1.504741667	P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8	2
TSSVSNPQDSVGSPC*SR	C108 C106 C108 C108	1.504115	P49023 F5GZ78 P49023 P49023	2
DVIELTDDSFDKNVLDSSEVWVMEFYAPWC*GH CK	C190 C238 C242 C195 C187 C190 C238 C242 C195 C187 C190 C238 C242 C195 C187 C190 C238 C242 C195 C187	1.503410645	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	3
VLESTPNNGYLYHQIGCC*YK	C284 C284	1.5033725	O14879 O14879	3
GPAVGIDLGTYS*VGVFQHGK	C17 C17 C17 C17 C17	1.502928	P11142 P11142 E9PKE3 P11142 P11142	3

FLENTPSSLNIEDIEDLFLSLAQYYC*SK	C283 C146 C283 C283 C146 C283 C283 C283 C283 C283 C283 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283	1.501981818	Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 Q9NUY8 Q9NUY8 Q9NUY8 Q9NUY8 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8	3
TPC*NAGTFSQPEK	C129 C129 C129 C129 C129 C129 C129	1.501096	J3QT28 O43684 O43684 J3QT28 O43684 O43684	3
AAAENLPVPAELPIEDLC*SLTSQSLPIELTSVVP STEDILLK	C65 C65	1.500124444	Q96JB2 Q96JB2	3
VVMALGDYMGASC*HACIGGTNVR	C131 C131	1.4998825	P60842 P60842	2
ISPV DVNSRPSSC*LTN FLLNGR	C53 C248 C349 C53 C248 C349	1.498308	H0YH12 Q9NVM9 Q9NVM9 H0YH12 Q9NVM9 Q9NVM9	3
KC*PFYAAEQDK	C236 C265 C319 C236 C265 C319	1.497745	P30519 P30519 A0A087WT44 P30519 P30519 A0A087WT44	2
AVC*MLSNTTAVAEAWAR	C376 C376 C376	1.496261846	Q9BQE3 Q9BQE3 Q9BQE3	3
SGEEDFESLASQFSDC*SSAK	C40 C113 C113 C113 C113 C113	1.495545385	K7EN45 Q13526 Q13526 Q13526 Q13526 Q13526	3
ECISIHVGQAGVQIGNACWELYC*LEHGIQPDGQ MPSDK	C25 C25 C25 C25	1.493806471	P68363 Q71U36 Q9BQE3 Q13748	3
AVLLASDAQEC*TLEEVVER	C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332 C332	1.491996667	Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81 Q27J81	3
MQKGDQPQVYEELFSYSC*PK	C417 C460 C369 C417 C460	1.491946667	Q9Y262 B0QY89 Q9Y262 Q9Y262 B0QY89	2
VQVSDPESTVAVAFPTIPHC*SMATLIGLSIK	C93 C93 C55 C93 C93 C55	1.491564	Q9Y3D0 H3BNV7 J3KS95 Q9Y3D0 H3BNV7 J3KS95	3
LILADALC*YAHTFNPK	C345 C376 C345 C376 C345 C376	1.490863333	P28838 P28838 P28838 P28838 P28838 P28838	3
LSDFGLC*TGLKK	C234 C235 C142 C234	1.490035	Q15208 Q9Y2H1 Q9Y2H1 Q15208	3
NVQLLSQFVSPFTGC*YGR	C90	1.488673333	Q9Y3D5	2
LISP NLGVVFFNAC*EAASR	C342 C316 C342 C316 C342 C316 C342 C316	1.488577143	Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74	3
AIQTVSCLLQGPC*DAGNR	C411 C426	1.485346667	Q9H3U1 Q9H3U1	2
SLHDALC*VLAQTVK	C395 C395	1.484740769	P78371 P78371	3
NDITAWQEC*VNN SMAQLEHQAVR	C106 C106 C106	1.484011111	O75934 O75934 O75934	3
GSSC*FECTHYQSFLYR	C238 C188 C238 C188 C238 C188	1.483986667	P21964 P21964 P21964 P21964 P21964 P21964	3
QGEYGLASIC*NGGGGASAMLIQK	C413	1.4838125	P24752	2
MHSV GIC*GSDVHYWEYGR	C24 C45 C24 C45	1.482957143	H0YLA4 Q00796 H0YLA4 Q00796	3
ELANSPDC*PQMCA YK	C189 C187 C187 C187	1.48239	P48739 P48739 P48739 A0A0A0MSW4	2

IATPFQVYSWTAPQAEHAMDC*VR	C333 C274	1.480633333	O75153 K7EIG1	3
C*YQLPPGAR	C252 C223 C252 C223	1.47958	P13716 P13716 P13716 P13716	2
HFLSDTGMAC*R	C119 C69 C119 C119 C69	1.479003333	Q5TFE4 Q5TFE4 Q5TFE4 Q5TFE4 Q5TFE4	3
STFFNVLNSQASAENFPFC*TIDPNESRVPVPDE R	C55 C75 C55 C75 C55 C75 C55 C75	1.477906667	Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32	3
LVTSPC*CIVTSTYGWTANMER	C597 C719 C597 C719	1.47788	P07900 P07900 P07900 P07900	3
LDADIHTNTC*R	C442 C415 C442 C415	1.477616667	P57772 P57772 P57772 P57772	2
GC*IVDANLSVLNLVIVK	C100 C100 C100 C100	1.47655	P62753 P62753 P62753 P62753	3
DLSYC*LSGMYDHR	C267	1.474629412	P52597	3
NSPSLFPC*APLCER	C142	1.47409	Q9UJM3	2
ISAFGYLEC*SAK	C159 C159 C159 C159 C159 C159 C159 C159 C159 C159 C159 C159	1.473802	P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6	3
NSNVDSYLESYQSC*PR	C106 C645 C767 C645 C767	1.473538	Q7Z2W4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4	2
IDYGTGHEAAFAFLCCLC*K	C167 C173 C132 C202 C138 C132 C202	1.47282	Q15257 A6PVN5 A6PVN9 Q15257 Q15257 F6WIT2 Q15257	2
KLDTNSDGLDFSEFLNLIGGLAMAC*HDSFLK	C91 C91	1.472808387	P31949 P31949	3
C*SFDVVKR	C169 C169	1.47145	Q9Y678 Q9Y678	2
SSTETC*YSAIPK	C2436 C2477 C2436 C2477 C2436 C2532 C2460 C2477 C2490 C2501	1.47008	O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369	3
DNAAVDGLSLHLQDICPLLYSTDDAIC*SK	C874 C815 C874 C815	1.4680475	O75694 O75694 O75694 O75694	2
VHIPNDDAQFDASHC*DSDKGEFGGFGSVTGK	C141 C97 C141 C97 C141 C97 C141 C97 C141 C97	1.468025263	Q16576 Q16576 Q16576 Q16576 Q16576 Q16576 Q16576 Q16576 Q16576 Q16576	3
YSNSALGHVNC*TIK	C282 C282 C282 C1101 C1101	1.4664375	Q9NQC3 Q9NQC3 Q9NQC3 Q9NQC3 Q9NQC3	2
TYAIC*GAIR	C56 C56 C56 C56 C56 C56 C56 C56 C56 C56 C56 C56	1.4664	Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220	3
ALDLSSC*K	C461 C508 C437 C461 C60 C508 C437 C461 C60 C508 C437	1.4660925	P31948 P31948 P31948 P31948 H0YG18 P31948 P31948 P31948 H0YG18 P31948 P31948	3
LSLLGGALPMFELVELQPSHLAC*PDVNLNSLDSS DVER	C361 C361	1.465762	Q9Y4P1 Q9Y4P1	2
ADPDGPEAQAEAC*SGER	C18 C18 C18 C18 C18 C18 C18 C18	1.4632925	D6RCB9 J3QSY4 D6RC52 D6RCB9 J3QSY4 D6RC52	3
VLTMPETC*R	C898 C867 C898	1.461925	Q99460 Q99460 Q99460	2

SELEC*VTNITLANVIR	C27 C27 C27 C27	1.46173	Q9Y6W5 Q9Y6W5 Q9Y6W5 Q9Y6W5	3
NMITGTSQADC*AVLIVAAGVGEFEAGISK	C111 C111 C111 C111	1.461416667	P68104 P68104 A0A087WV01 Q05639	2
SLPGPAPC*LK	C107 C26 C107 C26 C78 C107 C26 C78	1.46137	Q01433 Q01433 Q01433 Q01433 H0Y360 Q01433 Q01433 H0Y360	3
YLEC*SALTQR	C157 C150 C157 C157	1.461356667	P15153 B1AH80 B1AH78 P63000	2
TFVGT*WMAPEVMEQVR	C191 C191 C237 C218 C191 C191 C237 C218 C218 C191	1.461305455	C9JIG9 O95747 Q9UEW8 Q9UEW8 C9JIG9 O95747 Q9UEW8 Q9UEW8 Q9UEW8 O95747	3
DQVAQLDDIVDISDEISPSVDDLALSIYPPMC*HLT VR	C300 C300 C172 C300	1.4611625	O95273 O95273 O95273 O95273	2
LTWHSC*PEDEAQ	C177 C177 C177 C177 C177	1.461038	Q13185 Q13185 Q13185 Q13185 Q13185	3
TC*YPLESRPSLSLGTITDEEMK	C1937 C1923 C1921 C786 C1937 C801 C1923 C1921	1.460154	Q14980 Q14980 A0A087WY61 H0YFY6 Q14980 Q14980 Q14980 A0A087WY61	3
IGTSGGIGLEPGTVVITEQAVDTC*FK	C162 C162 C162 C162 C162	1.45997	Q16831 Q16831 Q16831 Q16831 Q16831	3
EGILNDDIYC*PPETAULLASYAVQSK	C117	1.459376667	P26038	2
LEHEEGAPC*TAIR	C233 C233 C180 C280 C206 C158 C212 C233 C233 C180 C280 C206 C206 C158 C212 C215 C215	1.458275	Q00537 Q00537 F5H6Z0 Q00536 Q00536 A0A087WZU2 Q00536 Q00537 Q00537 F5H6Z0 Q00536 E5RGN0 Q00536 A0A087WZU2 Q00536 A0A0A0MSJ6 Q07002	2
VLFPGCTPPAC*LLDGLVR	C440 C414	1.4576875	Q66K74 Q66K74	3
LIC*DFPFDGLLEER	C681 C670 C681 C670 C681 C670	1.4564575	Q96JC1 Q96JC1 Q96JC1 Q96JC1 Q96JC1 Q96JC1	3
TTPVDLC*LLEESVGSLEGR	C1499 C1499	1.4552975	Q9UUK3 Q9UUK3	2
IIDINYYPVEAC*LSNKR	C492 C492 C492	1.45453	P23921 P23921 P23921	3
VMTIPYQMPASSPVIC*AGGQDR	C194 C194 C194 C194 C194 C194	1.454041875	Q15365 Q15365 Q15365 Q15365 Q15365 Q15365	3
ELELMFGC*QVEGDAAETPPRPR	C251 C277 C251 C277 C277	1.453808462	Q02750 Q02750 Q02750 Q02750 Q02750	3
GDLNDCFIPC*TPK	C147 C203 C147 C203	1.452185	P11586 F5H2F4 P11586 F5H2F4	2
YQEAPNVANNTGPHAASC*FGAK	C564 C295 C517 C564 C618 C618 C517 C618 C295 C564 C618 C295 C517 C517 C517 C295 C295 C564 C618 C517 C295 C618 C517 C564 C564 C618 C517 C295 C564 C564 C618 C618 C295	1.450494	O60716 O60716 O60716 O60716 O60716 C9JZR2 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716 O60716	3

	C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105		P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	
C*TPSVISFGSK	C34 C34 C34 C34	1.440146667	Q92598 Q92598 Q92598 Q92598	3
FC*NIMGSSNGVDQEHSNVVK	C150 C150 C150 C150	1.438644	Q9NYL9 Q9NYL9 Q9NYL9 Q9NYL9	3
NHLLPDIVTC*VQSSR	C184 C184 C184	1.436113333	Q9BSD7 Q9BSD7 Q9BSD7	3
LSEAAC*EEDSASEGLGELFLDGLSTENPHGAR	C238 C238 C238 C238 C238 C238	1.435756923	O95801 O95801 O95801 O95801 O95801 O95801	3
GNLNFTC*NGNSVISPVGNR	C24	1.43558	A0A0B4J2E5	3
AWC*VNCFACSTCNTK	C334 C272 C334 C276 C284 C309 C334 C272 C334 C276 C284 C309	1.435255	P48059 P48059 A0A0J9 P48059 P48059 P48059 P48059 P48059 A0A0J9 P48059 P48059 P48059	2
HLGGIPWTYAEDAVPTLTPC*R	C268 C268	1.434075	P31930 P31930	2
FIC*TTSIQNR	C20 C20 C20 C20 C20 C20	1.43312875	P53396 P53396 P53396 P53396 P53396 P53396	3
NSLIELPDDYSC*LLNQASHFR	C1603 C1603 C1603	1.431523333	Q8IWW7 Q8IWW7 Q8IWW7	3
AHEILPNLVCC*SAK	C149 C149 C141 C149	1.42987125	P50990 P50990 H7C4C8 P50990	3
C*NYLALVGGGK	C63 C63	1.429085	Q5MZNZ6 Q5MZNZ6	2
VELC*SFSGYK	C6 C6 C6 C6 C6 C6	1.428545	P83731 C9JNW5 P83731 C9JNW5	3
CDLC*QEVLADIGFVK	C162 C100 C162 C104 C112 C137 C162 C100 C162 C104 C112 C137	1.42708	P48059 P48059 A0A0J9 P48059 P48059 P48059 P48059 P48059 A0A0J9 P48059 P48059 P48059	2
IGFPETEEEELEEIASENSDC*IFPSAPDVK	C340 C353 C340 C353	1.424776452	Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4	3
VAASC*GAIQYIPTELDQVR	C134 C134 C134 C134	1.4233	Q7L2H7 Q7L2H7 Q7L2H7 Q7L2H7	3
EDPTVSALLTSEKDWQGFLELYLQNSPEAC*DYGL	C209 C237 C209 C237 C237 C237 C209 C237	1.420183846	P78417 P78417 P78417 P78417 P78417 P78417 P78417 P78417	3
LNDDWAYGNLDARPWDFQAEEC*ALR	C769 C674	1.41809	Q5VSL9 Q5VSL9	2

GC*WDSIHVVEVQEK	C147 C147 C147 C147 C147 C147 C147 C176 C147 C135 C173	1.417653333	P47756 P47756 P47756 P47756 P47756 P47756 P47756 B1AK88 P47756 B1AK87 B1AK85	3
FREFLESQEDYDPC*WSLQEK	C96 C96 C96 C96 C96 C96 C96 C96	1.416778333	Q8N6T3 Q8N6T3 Q8N6T3 E5RHC5 Q8N6T3 Q8N6T3 Q8N6T3 Q8N6T3	3
DLNYC*FSGMSDHR	C267 C267 C267 C267 C267 C267 C267 C267 C267 C267 C267 C267 C81 C23 C267 C267 C142 C267 C267	1.416053143	G8JLB6 E9PCY7 P31943 G8JLB6 E9PCY7 P31943 P55795 P55795 G8JLB6 E9PCY7 P31943 P55795 H0YBD7 H0YBG7 G8JLB6 P31943 H0YB39 E9PCY7 P55795	3
LVVPASQC*GSLIGK	C109 C109 C109 C109 C109 C109 C109 C109	1.41427	Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366 Q15366	2
KENQWC*EEK	C160	1.41187	P63208	3
NC*IVLIDSTPYR	C100 C100 C100 C100	1.411713333	P62241 P62241 P62241 P62241	3
LAEKEDWIVDNEGLTSLPC*QFEQCIVCSLQSLK	C619 C619	1.40902	Q96KP1 Q96KP1	2
WLSDEC*TNAVVNFLSR	C350 C380 C345	1.4082375	A0A0C4DGA2 O75521 O75521	2
FCAC*PEEAAHALELR	C66 C66 C66 C66	1.407405	Q9NP81 Q9NP81 Q9NP81 Q9NP81	3
LQEVEC*EEQR	C253 C100 C318 C318 C253 C100 C318 C318	1.40711	Q13596 H0YK42 Q13596 Q13596 Q13596 H0YK42 Q13596 Q13596	2
AEAGEAGQATAEAEAC*HR	C274 C216 C258	1.40682	O95671 O95671 O95671	2
TLQNTMINLGLQNAC*DEAIYQLGLDIEELEEIEED AGLGNGLGR	C109 C109 C109 C109	1.405598	P06737 E9PK47 P06737 P06737	2
LELYGAC*VEEEGALTGGPK	C149 C186 C199 C149 C186 C199	1.405543333	Q9BST9 Q9BST9 Q9BST9 Q9BST9 Q9BST9 Q9BST9	2
GALMANFLTQQQVC*CNGTR	C288 C288	1.404983333	P49189 P49189	2
GC*QDFGWDPFCQPDGYEQTYAEMPK	C129 C146 C105 C129 C146 C129 C146	1.40461	Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32	3
HISPTAPDTLGC*YPFYK	C419 C384 C419 C384	1.403408	A0A087WWF6 P49005 A0A087WWF6 P49005	3
GTLTLC*PYHSDR	C779 C779	1.40326	Q13200 Q13200	3
FC*AFVQEAESRPR	C537 C552 C593 C537 C552 C593	1.401945	Q92888 Q92888 M0QZR4 Q92888 Q92888 M0QZR4	2
VVGSVGQHTGEPVEELALSHC*GR	C306 C145 C88 C306 C145 C88	1.40089	Q9H6Y2 G3V1J0 Q9H6Y2 Q9H6Y2 G3V1J0 Q9H6Y2	2
VLDALFPCVQGGTTAIPGAFGC*GK	C254 C221 C254 C221 C254 C221	1.399535	P38606 P38606 P38606 P38606 P38606 P38606	3
LAEKEDWIVDNEGLTSLPCQFEQCIVC*SLQSLK	C627 C627 C627	1.3994075	Q96KP1 Q96KP1 Q96KP1	2
TDFLSPMC*IGEVAHVSAEITYTSK	C87 C117	1.399235	O00154 O00154	2
C*SDSDGLAPPQHLIR	C182 C50 C23 C143 C143 C143 C23 C23 C143 C50	1.39916	P04637 P04637 A0A087WT22 P04637 P04637	3

	C171 C182 C182 C50 C50 C182 C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182		A0A0U1RQC9 A0A087 A0A087 P04637 P04637 A0A087WZU8 J3KP33 P04637 P04637 E7ESS1 P04637 P04637 P04637 A0A087WT22 P04637 P04637 A0A0U1RQC9 A0A087 A0A087 P04637 P04637 A0A087WZU8 J3KP33 P04637 P04637 E7ESS1 P04637	
VLVTQQFPC*QNPLPVNSGQAQR	C33 C33 C33 C33	1.397778	A3KFJ0 O14965 Q5QPD4 O14965	3
GLYDGPVC*EVSVTPK	C468 C504	1.397175	Q16555 Q16555	2
IAVYSC*PFDGMITETK	C244 C244	1.393244211	P50990 P50990	3
YADLTEDQLPSC*ESLKDIAR	C153 C153 C153 C153	1.39316	P18669 P18669 P18669 P18669	3
AFDTAGNGYC*R	C223 C223 C223 C223	1.393111429	P49327 P49327 P49327 P49327	3
ISSTLKVEPC*SLTPGYTK	C218 C219 C218 C218	1.391588333	Q96EB1 Q96EB1 Q96EB1 G5E9D4	3
SFGVQPC*VSTLVLEPAR	C592	1.39024	Q8TB52	2
AFVNPFPDYAAAAGALLASGAAEETGC*VRPPAT TDEPGLPFHQDGK	C49	1.3899225	Q9NS86	3
NDAPEEAGEGC*VAAILGETEVQQFLR	C57 C57 C57 C57	1.389003333	Q96DC7 Q96DC7 Q96DC7 Q96DC7	3
GFAGVC*GFGGPYGETVATGPYR	C892 C920 C892 C920 C892 C920	1.387958333	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2	3
ITEYLC*EPLRK	C66 C123 C123 C123 C123 C123 C123 C66 C123 C123 C123 C123 C123 C123	1.387875	P63010 P63010 P63010 Q10567 Q10567 Q10567 Q10567 P63010 P63010 P63010 Q10567 Q10567 Q10567 Q10567	2
EC*EHCDCLQGFQLTHSLGGGTGSGMGTLISK	C124	1.387576667	Q9BUF5	2
ELLDLHKQPTSEANC*SAMFGK	C532 C532	1.386835	Q29RF7 Q29RF7	2
LGTLAPFC*CPWEQLTQDWESR	C705 C705 C705 C705 C705	1.386325714	Q99575 Q99575 Q99575 Q99575 Q99575	3
EITSLDTENIDEILNNADVALVNFYADWC*R	C58 C58 C58 C58 C58 C58 C58	1.385716129	Q9BS26 Q9BS26 Q9BS26 Q9BS26 Q9BS26 Q9BS26 Q9BS26	3
VSLDPELEEALTSASDTELC*DLAAILGMHNLITNT K	C132 C132 C132 C132 C132	1.384716667	Q9NYL9 Q9NYL9 Q9NYL9 Q9NYL9 Q9NYL9	3
HFLIEC*TPK	C1001 C1241 C1001 C1241	1.382772	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	3
GLAPLHWADDDGNPTEQYPLNPNGSPGGVAGIC SC*DGR	C1287	1.382495	O15067	3
AHEILPNLVC*CSAK	C148 C148	1.3822475	P50990 P50990	2
ELDLSNNC*LG DAGILQLVESVR	C409 C409 C409	1.382083333	P13489 P13489 P13489	3
GMYGIENEVFLSLPC*ILNAR	C294 C294 C294	1.381536667	P07195 P07195 P07195	3
AQILVLTYPLIGNYGIPPEMDEFGLC*K	C73 C73 C73	1.380569231	P27708 P27708 P27708	3
SVPC*ESNEANEANEANK	C16	1.379978	Q9NS25	2
CELENC*QPFVETLHGK	C105	1.37987	Q06203	3

SSDKFC*SPISELAQNHFYK	C434 C445 C435 C447 C434 C445 C435 C447	1.37957	Q8IVH2 Q8IVH2 B7ZBM3 Q8IVH2 Q8IVH2 Q8IVH2 B7ZBM3 Q8IVH2	3
MDILDVLTAAQELSRPGC*LGR	C628	1.37919375	Q9Y4R8	3
GC*ILTLVER	C443 C444 C443 C444	1.37455	Q99613 B5ME19 Q99613 B5ME19	2
C*ALGWDHQEK	C246 C246 C246 C246 C246 C246	1.3711825	Q14247 Q14247 Q14247 Q14247 Q14247 Q14247	2
NSPLPNC*TYATR	C275 C340 C350	1.37038	Q5JTD0 Q5JTD0 Q5JTD0	2
RVETNQDWLSMCPNEC*PGLDEVWGEEFEK	C356	1.369546	P23921	2
AAGIIHLGATSC*YVGDNTDLILR	C113 C113 C113	1.3676775	P30566 P30566 P30566	2
ISEVFDC*WFESGSMPYAQVHYPFENKR	C526 C526 C526 C526	1.367206538	P41252 A0A0A0 P41252 A0A0A0	3
NFNYHILSPC*DLSNYTDLAMSTVK	C498 C461 C498 C461 C498	1.36434	Q9UKF6 G5E9W3 Q9UKF6 G5E9W3 Q9UKF6	3
QIPAITC*IQSQWR	C781 C781	1.36394375	P46940 P46940	2
QEPLGSDSEGVNC*LAYDEAIMAQQDR	C23 C23 C23 C23 C23 C23 C23 C23 C23	1.36375375	Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1	3
INPIC*NDHYR	C70 C70	1.363045	Q96KB5 Q96KB5	2
AATMSAVEAATC*R	C266 C278 C266 C278	1.362615	Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1	3
FQSSAVMALQEACEAYLVGLFEDTNLC*AIHAK	C111 C111	1.362451429	P68431 P68431	3
IYHPNINSNGSIC*LDILR	C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C56 C86 C56 C85 C85 C85 C56 C85 C87 C79	1.36116	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	3
C*LHNFLTDGVP AEGAFTEDFQGLR	C316 C268 C316 C268 C316 C268 C316 C268 C316 C268	1.3610425	G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764	3
VLTC*TDLEQGNFFLDFENAQPTSESEKIYNQV NVVLK	C10 C10 C10 C10 C10 C10 C10	1.36007	Q9NUQ9 E5R116 Q9NUQ9 E5R116 Q9NUQ9 Q9NUQ9 Q9NUQ9	3
SDVC*TPGGTTIYGLHALEQGGLR	C235 C247 C235 C247	1.35952	Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1	3
TMHLLLEVEVIEGLQC*PESGR	C100 C95	1.35737625	Q9UI30 Q9UI30	3
FALNNPEMVEGLVLINVNPC*AEGWMDWAASK	C168 C102 C168 C87	1.356991429	Q92597 Q92597 Q92597 Q92597	3
CCLTYC*FNKPEDK	C149 C149	1.35518	P62979 P62979	2
NC*GCLGASPNEQLQEENLK	C32 C32 C32 C32	1.353134167	P54136 P54136 P54136 P54136	3
QC*TGLQGFLVFHSFGGGTSGSFTSLLMER	C129 C129 C129 C129 C129 C129	1.353095172	P68363 P68363 Q71U36 Q71U36	3

	C94 C94 C129 C129 C129 C129 C129 C129 C129 C129		Q9BQE3 Q9BQE3 Q71U36 Q71U36 P68366 P68366 P68363 Q71U36 P68366 P68363 Q71U36 P68366	
DVIELTDDSFKNVLDSEDEVMMVEFYAPWCGHC *K	C193 C241 C245 C198 C190 C193 C241 C245 C198 C190 C193 C241 C245 C198 C190	1.353084	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	2
AHFDYDPSDDPYVPC*R	C366 C332 C366 C332 C366 C332	1.352998571	Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9	3
QSSANLLC*FAPDLIINEQR	C525 C537 C287 C622 C307 C596 C623 C533 C596 C292 C525 C537 C287 C622 C307 C596 C623 C533 C596 C292	1.35179	P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150 P04150	2
KIWC*FGPDGTGPNILTDITK	C651 C651 C651	1.351707143	P13639 P13639 P13639	3
VYGGGAAEISC*ALAVSQEADKCPTLEQYAMR	C391 C408 C429 C391 C408	1.351585	B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1	2
QMFEPVSC*TFTYLLGDR	C34 C34 C34 C34	1.3505125	Q95571 Q95571	3
VAC*ITEQVLTLVNKR	C477 C477 C477	1.34956	P04843 P04843 P04843	3
PGHLQEGFGC*VVTNRFDQLFDESDFEVLK	C11 C11 C11 C11 C11 C11 C11 C11	1.349472308	Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51	3
NC*LQVLNPETR	C198 C115	1.349445	Q5T1S5 Q7Z6M1	2
AEAEAASEVWC*R	C30 C30 C30	1.34939	O95081 A0A0C4DG34 O95081	2
C*SPTVAFVEFPSSPQLK	C669 C669 C669 C657 C669	1.34835	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46	2
LLDLVQQSC*NYK	C30 C34 C30 C34 C30 C34 C30 C34 C30 C34 C30 C34	1.348339167	P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1	3
YYHQLTEGC*GNEACTNEFCASCPTFLR	C44 C21 C41 C44 C21 C41	1.34832	Q05086 Q05086 Q05086 Q05086 Q05086 Q05086	2
LLQC*DPSSASQF	C185	1.347826667	P37235	2
ISLGLPVGAVINC*ADNTGAK	C28 C28 C32 C28 C28 C28 C32 C28 C28 C28 C28 C32 C28 C28 C28 C32 C28	1.347445417	J3KT29 B9ZVP7 C9JD32 P62829 J3KT29 B9ZVP7 C9JD32 P62829 P62829 J3KT29 B9ZVP7 C9JD32 P62829 J3KT29 B9ZVP7 C9JD32 P62829	3
C*PICVPCGLR	C44 C44	1.347415	Q9HAV4 Q9HAV4	2
DIDFLKEEEHDC*FLEEIMTK	C173	1.34688	P12268	3

HLNEIDLFHC*IDPNSDK	C58 C58 C58 C62	1.346720455	Q15185 Q15185 Q15185 A0A087WYT3	3
DEFTNTC*PSDKEVEIAYSVDVAK	C234	1.346674	Q9Y696	2
C*ASQAGMTAYGTR	C173 C173 C173	1.345496	Q15417 Q15417 Q15417	3
MSDSADKPIDNDAEGVWSPDIEQSFQEALAIYPP C*GR	C53 C53 C38 C53 C144	1.34528	P28347 H0YEJ9 P28347 H0YE88 H0YCZ6	2
NKPFFDIC*TSR	C419 C419 C419 C419 C419 C419 C419	1.34423	O60942 O60942 O60942 O60942 O60942 O60942 O60942	2
AGKPVIC*ATQMLESNIK	C326 C326 C326 C326	1.3442	P14618 P14618 P14618 P14618	3
DMGPHIFQTC*PSANYFDCR	C154 C148	1.343823333	P25786 P25786	3
NAIQLLASFLANNPFSC*K	C439 C439	1.342122	Q15021 Q15021	3
IYHPNVDENGQICLPIIISSENWKPC*TK	C98 C98	1.340292667	O14933 O14933	3
SC*PSFSASSEGTR	C9 C9	1.340034286	D6RFG8 P27707	3
NQSFC*PTVNLDKLWTLVSEQTR	C70 C70 C70 C70 C70 C70	1.33971	E9PLL6 P46776 E9PLL6 P46776 E9PLL6 P46776	3
YSTGSDSASFHTTPSMC*LNPDLGPPLEAYTI QGQY	C213 C217 C217 C213	1.338210909	Q15366 Q15366 Q15366 Q15366	3
ASIGAGFIYPLVGTMTMPGLPTRPC*FYDIDLDT ETEQVK	C961 C962 C896 C962 C896 C961 C962 C896	1.33677	Q6UB35 B7ZM99 A0A087WVM4 B7ZM99 A0A087WVM4 Q6UB35 B7ZM99 A0A087WVM4	3
C*ASQSGMTAYGTR	C196 C164 C175 C112 C164	1.334918889	B4DUT8 B4DDF4 Q99439 A0A087 B4DDF4	3
INPSETYPAFC*TTCFPSEPGLVGPSVR	C425 C425	1.332375	Q96GW9 Q96GW9	2
EPFDLGEPEQSNGGFPC*TTAPK	C213 C277 C229 C213 C277 C229 C213 C277 C229	1.33206	Q99961 Q99961 Q99961 Q99961 Q99961 Q99961 Q99961 Q99961 Q99961	2
FALNHPELVEGLVLINVDPC*AK	C166 C154 C166 C166 C154 C166 C166 C154 C166 C166 C154 C166	1.331734286	Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30	3
TDICQGALGDC*WLLAAIASLTLNNEILAR	C105 C105 C105 C105	1.3308425	P17655 P17655 P17655 P17655	3
YATSCYSCC*PR	C144 C173 C144 C173	1.330103333	Q13057 Q13057 Q13057 Q13057	2
MSESPTPC*SGSSFEETEALVNTAAK	C277 C2528 C2577 C2573 C273 C308	1.32869	E7EMZ9 E9PBC6 O95359 O95359 H0Y911	2
GFSAISCTVEGAPASFGK	C33 C33	1.32864	Q96EY5 Q96EY5	2
LLYEALVDC*KK	C175	1.327653333	Q7L2H7	3
DLC*FSPGLMEASHVVNDVNEAVQLVFRK	C192 C392 C362	1.32664	A8MYZ9	2
ISHESPGSSQC*LLEYLLSR	C45 C52 C45 C52	1.32641	I3L4S7 Q96N21 I3L4S7 Q96N21	2
SDGLQWSAEQPC*NPSKPK	C185 C193 C102 C215 C125 C185 C193 C102 C215 C125	1.32494	Q9NUQ6 Q9NUQ6 A0A0A0MSG5 Q9NUQ6 B8ZZZ7 Q9NUQ6 Q9NUQ6 A0A0A0MSG5 Q9NUQ6 B8ZZZ7	3
KVAEPELMGTPDGTC*YPPPPVPR	C1889 C1889 C1889	1.3247495	P27708 P27708 P27708	3
LQTEAQEDDWYDC*HR	C758 C758 C758	1.3241	Q9UHI6 Q9UHI6 Q9UHI6	3

TTC*SSGSALGPGAGAAQPSASPLEGLLDLSYPR	C12 C12 C12	1.323516667	F8WDZ3 Q96FZ5 Q96FZ5	2
LC*VQNSPQEAR	C141 C150 C150 C150 C150 C141 C150 C150 C150 C150	1.323464	A0A0A0MT56 E9PID8 P33240 P33240 E7EWR4 A0A0A0MT56 E9PID8 P33240 P33240 E7EWR4	2
NMVHPNVICDGC*NGPVVGTTR	C154 C131 C131 C154 C131	1.322904	E3W990 E7EMC7 Q13501 E3W990 Q13501	2
C*QSGDDNLTSLGTLNFPGR	C270 C282 C32 C367 C52 C341 C367 C278 C341 C37 C270 C282 C32 C367 C52 C341 C367 C278 C341 C37 C270 C282 C32 C367 C52 C341 C367 C278 C341 C37	1.3219875	P04150 P04150	2
KNEPPLTC*PYSLK	C295 REVERSE C295	1.321885	Q9UGP8 Q9UGP8	2
FICVTP TTC*SENTIDLPMSPR	C718 C717	1.32001	P40763 P40763	2
MLPTYVC*ATPDGTEKGDFLALDLGGTNFR	C517 C517 C517	1.315102105	P52789 P52789 P52789	3
LMSSNSTDLPLNIEC*FMNDKDVSGK	C290 C290 C290 C290	1.314596667	Q92598 Q92598 Q92598 Q92598	2
TGC*TFPEKPDFH	C353 C336 C353 C318 C336	1.314205833	P55263 P55263 P55263 P55263 P55263	3
C*WDPSQAYFTLPR	C348 C354 C348 C354 C348 C354 C32 C348 C354 C32	1.312226	I3L2N2 O14641 I3L2N2 O14641 I3L2N2 O14641 I3L0Z8 I3L2N2 O14641 I3L0Z8	3
EC*SNPSNLLLELYTQAILDMTYFEENKLVDEDFPE DSSSQK	C57	1.311453333	A6NDU8	2
VIIVQAC*R	C328 C258 C258 C257 C315 C173 C202 C211 C245 C258 C202 C211 C328 C258 C258 C257 C315 C173 C202 C211 C245	1.310655	P51878 P49662 P49662 P51878 P51878 P51878 P49662 A0A087WZP8 P51878 P49662 P49662 A0A087WZP8 P51878 P49662 P49662 P51878 P51878 P51878 P49662 A0A087WZP8 P51878	3
EVIQSDSLWLVEFYAPWC*GHCQR	C55 C103 C107 C60 C52 C55 C103 C107 C60 C52 C55 C103 C107 C60 C52	1.310318889	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	3
TKEYTAC*ELMNIYK	C195	1.310195	Q9NSD9	3
DNEVDQFEYCVFLSCIAMMC*NEFFEGFPDKQPR	C86	1.308596	P26447	2

NLGNSC*YLNSSVVQVLFSPDFQR	C335 C335 C335 C335	1.308566667	P45974 P45974 P45974 P45974	2
HSSSC*LPLPEFVDNTQVPSYCLNAR	C89 C89 C89 C89 C89 C89 C89 C89	1.306998	Q9ULP9 Q9ULP9 Q9ULP9 Q9ULP9 Q9ULP9 H3BQ06 A0A0D9SFR5 Q9ULP9	3
FC*DNSSAIQGK	C270 C270	1.30595	O15067 O15067 P10599 P10599	2
TAFQEALDAAGDKLVVDFSATWC*GPKC	C32 C32 C32	1.304572609	P10599 P10599 P10599	3
LIDFLEC*GK	C234 C234 C234 C234	1.302425	P17844 J3KTA4 P17844 J3KTA4	2
IEC*SDNGDGTCSVSYLPTKPGEYFVNILFEEVHI PGSPFK	C1087 C1087	1.30099	O75369 O75369	3
LPTDLTAC*DNR	C111 C111	1.3005	Q96RS6 Q96RS6	2
EIFTSLEYGPVPESHAC*ALAWLDTQDR	C28 C28 C28 C28 C28	1.30031	Q8IZ83 Q8IZ83 Q8IZ83 Q8IZ83 Q8IZ83	2
ESESC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C127	1.299112222	Q9BVA1	3
ATGNLSASC*GSALR	C81 C81 C81	1.29842	Q96T51 Q96T51 Q96T51	2
VAC*AEEWQESR	C87 C87 C87	1.295419231	O75663 O75663 O75663	3
C*TPACISFGPK	C34 C34 C34 C34	1.29346	P34932 A0A087WTS8 A0A087WYC1 P34932	3
CPALYWLSGLTC*TEQNFISK	C56	1.29296	P10768	2
HPLTQELKEC*EGIVPVPLAEK	C105 C105 C105	1.29128	P82932 P82932 P82932	3
MAAISESNINLC*GSHCGVSIGEDGPSQMALEDL AMFR	C421 C413	1.29061	P29401 P29401	2
VQGGVPAGSDEYEDEC*PHLIALSSLNR	C449 C449 C449 C449 C449 C449	1.290236667	Q9BVS4 Q9BVS4 Q9BVS4 Q9BVS4 Q9BVS4 Q9BVS4	3
VLLSIC*SLLCDPNPDDPLVPEIAR	C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101	1.290102	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	3
HELQANC*YEEVK	C122 C139 C177 C139 C122 C139 C177 C139 C122 C139 C177 C139	1.289630769	G3V1A4 P23528 E9PK25 E9PP50 G3V1A4 P23528 E9PK25 E9PP50 G3V1A4 P23528 E9PK25 E9PP50	3
YRPDMPC*FLLSNQNAVK	C129 C48	1.289035	Q15398 Q15398	2
ENPDLAC*LQSIIFDEERSPEEQAK	C63	1.285982	O95801	2
DHQPC*IIFMDEIDAIGGR	C228 C242 C228 C242 C228 C242 C228 C242 C228 C242	1.285254444	P62333 A0A087 P62333 A0A087 P62333 A0A087 P62333 A0A087 P62333 A0A087	3
IECSDNGDGTCSVSYLPTKPGEYFVNILFEEVHI PGSPFK	C1095 C1095	1.284023333	O75369 O75369	3
YSNVIFLEVDVDDCQDVASEC*EVK	C69 C69 C69	1.282243333	P10599 P10599 P10599	2
MLSC*AGADR	C105 C105	1.282105	P27635 Q96L21	2

VNC*SQFLGLCALPGCK	C39 C39 C39 C39 C39 C39	1.281253333	H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667	3
SEHGPIFFPESGQPEC*LK	C324 C295 C247 C323 C324 C295 C247 C323 C324 C295 C247 C323	1.277511667	Q96ME7 Q96ME7 Q96ME7 Q96ME7 Q96ME7 Q96ME7 Q96ME7 Q96ME7 Q96ME7	3
INQMVC*NSDR	C853 C853	1.2767125	P06400 P06400	3
C*NEQPNRVEIYEK	C98 C98	1.27638	Q7L576 Q7L576	2
HIEALLGSPC*GK	C81 C81	1.2757	P49589 P49589	2
YTC*GEAPDYDR	C39 C39 C39	1.275484	P21266 P21266 P21266	3
FMADC*PHTIGVEFGTR	C40 C40 C40 C40	1.273816667	P61106 P61106	2
LNNLIC*DESDVKDLAFK	C361 C362 C361 C361	1.273606	Q96EB1 Q96EB1 Q96EB1 G5E9D4	2
YMAC*CMLYR	C315 C315 C339 C249 C315 C315 C339 C249 C73 C315 C315 C339	1.273133333	Q13748 Q9NY65 C9J2C0 Q9NY65 Q13748 Q9NY65 C9J2C0 Q9NY65 V9GZ17 Q13748 Q9NY65 C9J2C0	3
VLSECSPLMNDIFNKEC*R	C635	1.272805	P53618	2
MVSTPIGGLSYVQGC*TK	C64 C64 C89 C64 C64 C64 C89 C64 C64	1.27091	Q96CM8 Q96CM8 Q96CM8 E9PF16 Q96CM8 Q96CM8 Q96CM8 E9PF16 D6RF87	2
VGSFGSSPPLSSTYTGGLGNEIASGNNGAAA GDDEDGQNLWSC*ILSEVSTR	C51 C51	1.270903333	Q9Y6G9 Q9Y6G9	3
YSLADQTSQDQSPLPCTPTPPC*AEMR	C569 C573	1.2704125	Q06124 Q06124	3
VSC*AGQMLEVQPGLYFGGAAVAEPDHLR	C23 C23	1.266043636	Q9UNI6 V9GY92	3
LMWLFQC*PLLLDDVAR	C66 C66	1.265256667	O15067 O15067	3
HLEEHVDVLMTSNIVQC*LAAMLDTVVFK	C299 C299 C299	1.26514	O00487 O00487 O00487	3
AWVWNTHADFADEC*PKPELLAIR	C209 C82 C132 C132 C132 C82 C209 C82 C132 C132 C132 C82 C209 C82 C132 C132 C132 C82	1.2648	F6WQW2 P43487 P43487 C9JJ34 C9JGV6 F6WQW2 P43487 P43487 C9JJ34 C9JGV6 F6WQW2 P43487 P43487 C9JJ34 C9JGV6	3
TGC*VDLTITNLLGAVAFMPEDITK	C391 C325 C325	1.261002857	Q9Y679 Q9Y679 Q9Y679	3
VQSLPSVPLSC*AAAYR	C412 C412 C88 C412 C78	1.258252	Q96AD5 Q96AD5 Q96AD5 Q96AD5 A0A087WY86	3
IDC*FSEVPTSVFGEK	C384	1.257516	O00567	3
LDLVGSSQPIKESNSLC*PAGIR	C1362 C1362	1.254166667	Q9UPU5 Q9UPU5	2
GEFYVIEYAAC*DATYNEIVTFER	REVERSE C50 C99 C86 C99 C50 C99 C86 C99 C50 C99 C86 C99 C50 C99 C86 C99	1.252154286	E9PFF5 P51114 P51114 E9PFF5 P51114 P51114 E9PFF5 P51114 P51114 E9PFF5 P51114 P51114	3
IQFNDLQSLLC*ATLQNVLR	C585 C585	1.25205125	Q14974 Q14974	2
ALVPLGIGIATGEQC*HNR	C307 C307	1.24979	Q7L5Y1 Q7L5Y1	2
ASYFQC*VQR	C47 C47	1.24868	P30281 P30281	2
YMAC*CLLYR	C315 C315 C315 C280 C315 C322 C282 C315 C315 C315 C322 C282 C315 C315 C315 C315 C315 C315	1.247940909	P68363 Q71U36 Q9BQE3 Q71U36 P68366 A6NHL2 A6NHL2 P68363 Q71U36 P68366 A6NHL2 A6NHL2	3

	C322 C282 C322 C282		P68363 P68363 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2	
AQSDTLC*VGGFIR	C122	1.24303	Q9ULJ7	2
SFC*PGGTDSVSPPPSVITQENLGR	C314 C314	1.242325	Q9C0C9 Q9C0C9	3
LVMSYVAAVC*GK	C129 C129 C129 C122 C129 C129 C129	1.240925	E9PDF6 O43795 O43795 Q9UBC5 E9PDF6 O43795 O43795	3
NMMAAC*DPR	C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C650 C303 C650 C303 C303 C303 C303 C303 C285 C285 C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C650 C303 C650 C303 C650 C303 C650 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C650 C303 C650 C303 C303 C303 C266 C269 C303 C266 C269 C303	1.24064	Q5JP53 Q5JP53 P68371 P68371 Q9BUF5 Q9BUF5 P04350 P04350 Q9BVA1 Q9BVA1 A0A0B4J269 Q13509 A0A0B4J269 Q13509 Q3ZCM7 Q3ZCM7 A6NNZ2 A6NNZ2 Q5JP53 Q5JP53 Q5JP53 Q5JP53 Q9BUF5 Q9BUF5 Q9BUF5 Q9BUF5 P68371 P68371 P68371 P68371 A0A0B4J269 Q13509 A0A0B4J269 Q13509 A0A0B4J269 Q13509 P04350 P04350 P04350 P04350 Q9BVA1 Q9BVA1 Q9BVA1 Q9BVA1 Q13885 Q13885 Q13885 Q13885 Q3ZCM7 Q3ZCM7 Q3ZCM7 Q3ZCM7 Q5JP53 Q5JP53 Q9BUF5 Q9BUF5 P68371 P68371 Q9BVA1 Q9BVA1 Q13885 Q13885 A0A0B4J269 Q13509 A0A0B4J269 Q13509 P04350 P04350 A0A075B736 Q5SQY0 Q3ZCM7 A0A075B736 Q5SQY0 Q3ZCM7	3
AQAISPC*VQNFCALDSK	C513 C513 C513 C513 C513 C513	1.23966	Q8WTW3 A0A087WV10 E9PBL8 Q8WTW3 A0A087WV10 E9PBL8	2
SNELGDVGVHC*VLQGLQTPSCK	C75 C75 C75 C75	1.23809625	P13489 E9PMN0 P13489 P13489	3
KC*GETAFIAPQCEMPIEWVCR	C81 C81 C81 C81	1.238002143	P22234 E9PBS1 P22234 P22234	3
C*CLTYCFNKPEDK	C144	1.236513333	P62979	2
VGLPIGQGGFGC*IYLADMNSSESVGSDAPCVVK	C50	1.233513333	Q99986	2

CNYNC*PHANEAAPFYR	C359 C357 C359	1.231393333	O00622 A0A087WVM3 O00622	2
AHVVC*FDASK	C1157 C1157 C1130 C1157 C1157 C1130	1.230256667	P21333 P21333 Q60FE5 P21333 P21333 Q60FE5	2
YVFNLAELAEVPMYVGIPEC*IK	C416 C295 C173 C357	1.229985	J3KN59 Q12982 H7C096 Q12982	2
NC*DKGQSFIDAPDSPATLAYR	C277 C266 C277 C266	1.22655875	P53384 P53384 P53384 P53384	3
DTC*YSPKPSVYLSTPSSASK	C540 C540	1.2258575	Q9Y5K6 Q9Y5K6	2
NNAFPC*QVNIK	C675 C712 C675 C712	1.2244125	Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6	3
LEKPNEGYLEFFVDC*SASATPEFEGR	C85 C85 C85 C85 C85 C85	1.22198619	Q15024 Q15024 Q15024 Q15024 Q15024 Q15024	3
TYSHLNIAGLVGSIDNDFC*GDTMTIGTDSA	C170 C170	1.220755714	P17858 P17858	3
GEASEDL*EMALDPELLLRDDGEEEFAGAK	C644 C644	1.21648	Q8N163 Q8N163	3
IEEDVVVTDSGIELLTC*VPR	C467 C467 C403 C403 C467 C467 C467 C467 C467	1.212177857	P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955	3
TFVSGAC*DASIK	C204 C204	1.20935	P62879 P62879	2
GDSEPTPGC*SGLGPGGVR	C13 C13 C13 C13 C12	1.205618182	F2Z3M0 E9PPN1 Q8WW01 Q8WW01 H0YCV5	3
YC*FPNYVGR	C34 C34	1.201175	P61163 P42025	2
HSMNPFC*EIAVEEAVR	C133 C42 C42	1.199957	P38117 M0QY67 P38117	3
GVLMPGPPGC*GK	C210 C179 C210 C179	1.197753333	P43686 P43686 P43686 P43686	3
FEQSDLEAFYNVITVC*GTNEVR	C308 C306 C308 C306 C308 C306 C308 C306 C308 C306	1.19484	Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3	2
STC*SLTPALAAHFSENLIK	C508 C553 C450 C508 C553 C401	1.190468333	Q9BTA9 Q9BTA9 Q9BTA9 Q9BTA9 Q9BTA9 A0A0A0MRT2	3
NC*LNPQFSK	C54 C54	1.188446	O75131 O75131	3
KAAAGELQEDSGLC*VLAR	C172 C172	1.18826	Q96C19 Q96C19	2
VDSTTC*LFPVEEK	C246 C264 C246 C264 C246 C264	1.187448333	Q06210 Q06210 Q06210 Q06210 Q06210 Q06210	3
GYDAPLC*NLLLFK	C379 C420	1.187025	O60488 O60488	2
GEPLWAQNVVPEAEGEDDPAGEAQAGRLPLLPC *AR	C139 C139	1.18589	A6NED2 G3V2I3	2
FPDFLDC*LPGTNVDLGTLESEDLIPLFNDVESAL NK	C363	1.183236667	Q9GZV5	2
IDRYTQQGFGNLPIC*MAK	C906 C907 C841 C906 C907 C841	1.182831818	Q6UB35 B7ZM99 A0A087WVM4 Q6UB35 B7ZM99 A0A087WVM4	3
GTSEDCQPCAC*PLNIPSNFSPCHLDRSLGLIC *DGCPVGYTGPR	C809 C832 C809 C832 C809 C832 C809 C832 C809 C832 C809 C832	1.178835	P24043 A0A087WYF1 A0A087 P24043 A0A087WYF1 A0A087	2
GCITIIGGGDTATCC*AK	C380 C380	1.176055	P00558 P00558	2
LQEVPHGPMC*DLLWSDPDDR	C196 C196 C196 C196 C196 C196	1.17594	P67775 P62714 P67775 P62714 P67775 P62714	3
AEPQC*TSLAWSADGQTLFAGYTDNLVR	C286 C286 C286 C286 C286 C286 C55 C55	1.17356	P63244 P63244 P63244 P63244	3

			P63244 P63244 D6RHJ5 D6RHJ5	
LTIIVSDPSHC*NVLR	C87 C87	1.172785	P78346 P78346	2
TVGVQGDGCR	C523 C523	1.167153333	P49915 P49915	2
GNIPAESYFFIDILLDIRDEIAGC*IEK	C274 C211 C274 C211 C211 C274 C211 C211	1.165756	P48556 R4GMR5 P48556 K7EJR3 R4GMR5 P48556 K7EJR3 R4GMR5	3
DCIELFTTMETLGEHDPWYC*PNCKK	C799 C752	1.164755	Q13107 Q13107	2
AGAVVAVPTDTLYGLACAASC*SAALR	C99	1.163544	Q86U90	2
DLIMDNC*EELIPEYLNfir	C178	1.16176	Q58FG1	2
ITSC*IFQLQEAGIK	C63 C63	1.15646	P22234 P22234	3
SNC*KPSTFAYPAPLEVPK	C806 C806	1.15518	Q99460 Q99460	2
HPSIIFIDELDALC*PK	C459 C459 C459 C459 C459 C459	1.15518	Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90	2
LMGLLSDPELGPAADGFSLLMSDC*TDVLR	C848 C869	1.151736	Q96T76 Q96T76	3
TDICQGALGDC*WLLAAIASLTLNDTLLHR	C115 C115	1.148195	P07384 P07384	2
LVTSPCC*IVTSTYGWTANMER	C598 C720 C598 C720 C598 C720 C598 C720	1.145388	P07900 P07900 P07900 P07900 P07900 P07900 P07900 P07900	3
VQPQWSPAGTQPC*R	C110 C110	1.144986667	P49589 P49589	3
TGEPCC*VAELTEENFQR	C258 C258 C258 C107 C258 C258 C258 C107 C258 C258 C258 C258 C107 C258 C258 C258 C107 C258 C258 C258 C258 C107 C258 C258 C258 C107 C258	1.142413333	Q8IUD2 Q8IUD2 A0A0U1RQM4 Q8IUD2 G8JLD3 K7EPP6 Q8IUD2 Q8IUD2 Q8IUD2 A0A0U1RQM4 Q8IUD2 G8JLD3 K7EPP6 Q8IUD2 Q8IUD2 Q8IUD2 A0A0U1RQM4 Q8IUD2 G8JLD3 K7EPP6 Q8IUD2	3
LALDCSGQQVAVDLFLLSGQYSDLASLGC*ISR	C704 C704 C704 C704 C704 C704	1.142146429	O95486 O95486 O95486 O95486 O95486 O95486	2
LPIIGVVENMSGFIC*PK	C235 C224 C235 C224	1.13903	P53384 P53384 P53384 P53384	2
AC*GNFGIPCELR	C288 C288 C288 C288	1.138114286	P22234 E9PBS1 P22234 P22234	3
FDDLQFFENC*GGGSGSVYR	C22 C22 C22 C22 C22	1.13749	Q9NYL2 Q9NYL2 Q9NYL2 Q9NYL2 Q9NYL2	3
VLVTTNVC*AR	C392 C310 C393 C361 C302 C392 C310 C393 C361 C302 C392 C310 C393 C361 C302	1.134836	Q9NUU7 I3L352 F6QDS0 I3L0H8 Q9NUU7 Q9NUU7 I3L352 F6QDS0 I3L0H8 Q9NUU7 Q9NUU7 I3L352 F6QDS0 I3L0H8 Q9NUU7	3
LVDPLGEMLAPSWEEHATC*LANAEEQDMQR	C93 C121 C93 C93 C121 C93	1.1345225	O95394 O95394 O95394 O95394 O95394 O95394	2
IC*PVEFNPNFVAR	C33 C33 C33 C33 C33 C33	1.132299091	Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30	3
SWMEGLTLQDYSEHC*K	C238	1.125275	O00487	3
LC*PQFLQLASANTAR	C264 C264 C264 C264 C264 C264	1.123085	O95630 C9JK83 O95630 O95630 C9JK83 O95630	2
C*FQEMLEEEEEHEWFIPAR	C60 C60	1.122738333	D6RA77 Q9BPZ3	2

			O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701 O60701	
ASVGFGGSC*FQK	C276 C209 C276 C179 C276 C209 C179 C276 C209	1.120496		3
CC*LTYCFNKPEDK	C145	1.118876667	P62979	2
SFC*SQFLPEEQAEIDQLFDALSSDKNSPNVSSK	C13 C13 C13 C13	1.118143333	H3BM75 H3BUB0 Q6P9B6 Q6P9B6	3
EAESC*DCLQGFQLTH	C109 C127 C127 C127 C127	1.117908	Q5JP53 P68371 P04350 Q3ZCM7 A6NNZ2	3
YAYLNVGMVGSIDNDFC*GDTMTIGTDSALHR	C179 C179 C179 C179 C179 C179 C179	1.116050704	Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813	3
SYIEGYVPSQADVAVFEAVSSPPADLC*HALR	C50 C50 C50 C50 C50 C50	1.11516	P24534 F2Z2G2 C9JZW3 P24534 F2Z2G2 C9JZW3	2
SFNIWDIKPANMEELTEVITAAEFHPNSC*NTFVYS SSK	C239 C249	1.11428	P63151 P63151	2
ATLEC*HPLTMTDPIEEHR	C191 C245 C191 C245	1.11167	Q99661 Q99661 Q99661 Q99661	3
NQC*LFTNTQCK	C68 C68 C68 C68 C93 C68 C68 C68 C68 C68 C93 C68 C68 C68 C68 C68 C93 C68	1.1109225	Q9UL40 D6RJ07 B7Z6B6 Q9UL40 Q9UL40 B7Z6Q2 Q9UL40 D6RJ07 B7Z6B6 Q9UL40 Q9UL40 B7Z6Q2 Q9UL40 D6RJ07 B7Z6B6 Q9UL40 Q9UL40 B7Z6Q2	3
LVSSPC*CIVTSTYGWTANMER	C589 C589	1.1100175	P08238 P08238	3
YAGLSTC*FR	C300 C300 C300 C300	1.109594	P49591 Q5T5C7 P49591 Q5T5C7	3
VC*FGIQLLNAVSR	C102 C218 C114 C208 C182 C188	1.10447	H7C599 A0A0C4DFN3 H7C4E0 Q99685 Q99685	3
GEAYNLFEHNC*NTFSNEVAQFLTGR	C108 C108 C108	1.102272857	Q6ICB0 Q6ICB0 Q6ICB0	3
C*ASQVGMTAPGTR	C236 C204 C215 C152 C204	1.102256	B4DUT8 B4DDF4 Q99439 A0A087 B4DDF4	2
GLNPLNAYSDLAEFLETEC*YQTPFNK	C343 C343 C343	1.101745	O14879 O14879 O14879	3
LVFLAC*CVAPTNP	C301 C301 C301	1.09825125	Q14566 Q14566 Q14566	3
LLDRDAC*DTVR	C204 C247	1.086955	Q9NZL4 Q9NZL4	2
HLSC*TVGDLQTK	C320 C320 C320	1.08576	Q96T51 Q96T51 Q96T51	2
IQCTLQDVGSALATPC*SSAR	C80 C132 C80 C132 C80 C132 C80 C132	1.085058333	S4R3P5 Q96EY8 S4R3P5 Q96EY8 S4R3P5 Q96EY8 S4R3P5 Q96EY8	3
ESGC*VLGLRPGAQESPVSWPEGSK	C437 C369 C227	1.084855	Q6ZUT6 Q6ZUT6 Q6ZUT6	3
FNPEAGANC*LVK	C449 C449	1.084498	O14777 O14777	3
GTWEELCNSC*EMENEVLK	C652	1.080013333	O95573	2
DFQDYMEPEEGC*QGSPQR	C191 C152 C191 C152	1.071655	O43237 B4E2E0 O43237 B4E2E0	2
LPVC*SQQQGEPDLTEHEK	C78 C78	1.071466667	Q96F63 Q96F63	2
NC*ATFNPTDDLVLNDGVLWDVR	C1226 C1227 C778 C1226 C1227 C778	1.07088	Q9Y4B6 Q9Y4B6 Q9Y4B6 Q9Y4B6 Q9Y4B6 Q9Y4B6	2
LPSPDC*PFPR	C148 C148 C148 C148	1.068935	P29279 P29279 P29279 P29279	2

TTSSANNPNLMYQDEC*DRR	C507 C507 C586 C584 C505 C507 C507 C586 C584 C505 C507 C507 C586 C584 C505	1.065510909	Q92841 Q92841 H3BLZ8 Q92841 Q92841 Q92841 Q92841 H3BLZ8 Q92841 Q92841 Q92841 Q92841 H3BLZ8 Q92841 Q92841	3
VC*SVNPPSAIEMQLR	C901 C748 C410 C901 C901 C901 C748 C410 C901 C901	1.06548	E9PHV5 P28290 E7EUL7 P28290 P28290 E9PHV5 P28290 E7EUL7 P28290 P28290	2
GC*TATLGNFAK	C229 C229 C229	1.062274	P15880 P15880 P15880	3
FMSVLDTNKDC*EVDFVEYVR	C68	1.062	P33764	2
AQVCQQAHEHSFAGMPC*GIMDQFISLMGQK	C212 C182 C212 C182	1.058472	P51570 P51570 P51570 P51570	3
DGFYEAELC*PDR	C105 C92 C105 C105 C105 C116 C105 C105 C92 C105 C105 C105 C96 C105 C74 C105 C116 C105 C105 C92 C105 C105 C105 C96 C105 C74 C105 C116	1.056171667	Q04206 Q04206 A0A087 Q04206 Q2TAM5 E9PKH5 Q04206 Q04206 Q04206 E9PKV4 A0A087 Q04206 E9PQS6 A0A087WVP0 E9PI38 Q2TAM5 E9PKH5 Q04206 Q04206 Q04206 E9PKV4 A0A087 Q04206 E9PQS6 A0A087WVP0 E9PI38 Q2TAM5 E9PKH5	3
SEFYANEAC*K	C381 C401 C339 C219 C339 C339 C381 C401 C339	1.050575	A0A087WT95 P49753 A0A087 P49753 A0A087WT95 P49753 A0A087	2
QQYLC*QPLLDVLANIR	C552 C507 C578 C618 C552 C507 C578 C618	1.04062	G3V1P5 Q96RN5 Q96RN5 Q96RN5 G3V1P5 Q96RN5 Q96RN5 Q96RN5	2
ASC*LYGQLPK	C48 C48	1.03899	P09211 P09211	2
ADEASELAC*PTPK	C2202 C2202 C2202	1.036382857	P49327 P49327 P49327	3
C*YLTMTQALEAR	C1888 C1888	1.035708571	Q14204 Q14204	3
LVSSPCC*IVTSTYGWTANMER	C590 C590 C590 C590 C590 C590	1.03234	P08238 P08238 P08238 P08238 P08238 P08238	3
VNSDC*DSVLPNFFLLGGNIFDPLNLSLLDEEVSR	C177	1.0295675	Q7L2J0	2
VVHC*QPLDLK	C161 C138 C161 C138	1.027395	A0A0C4DFS6 Q9C004 A0A0C4DFS6 Q9C004	2
DAANC*WTSLLESEYAADPWVQDQMQR	C99	1.024747143	Q8WVJ2	3
IINSYC*VFPR	C443 C363 C396 C363 C459 C487 C294 C443 C591 C363 C396 C363 C459 C487 C294	1.023743333	Q9UJF2 Q5VWQ8 H0Y3A3 Q5VWQ8 Q5VWQ8 Q5VWQ8 Q5VWQ8 Q9UJF2 Q9UJF2 Q5VWQ8 H0Y3A3 Q5VWQ8 Q5VWQ8 Q5VWQ8 Q5VWQ8	2
C*YEMASHLR	C128 C128	1.0227425	P07737 P07737	2
YMACC*LLYR	C316 C316 C316 C316 C316 C316	1.018535263	P68363 P68363 Q71U36 Q71U36	3

	C281 C281 C316 C316 C323 C283 C323 C283 C316 C316 C316 C316 C316 C316 C316 C316 C316 C323 C283 C323 C283 C323 C283 C316 C316 C316 C316 C316 C316 C323 C283 C323 C283		Q9BQE3 Q9BQE3 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 P68363 P68363 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2	
ESSYAC*YYDEKR	C219 C219 C219 C219 C219 C219 C219	1.016563333	Q99538 Q99538 Q99538 Q99538 Q99538 Q99538 Q99538	3
VMAEANHFIDLSQIPC*NGK	C620	1.014828	O15294	3
AALAAC*PSSPFPAMP	C502 C463 C502 C463	1.014618	Q8N2G8 Q8N2G8 Q8N2G8 Q8N2G8	3
LEGC*SHPVVMKGLCAEC*GQDLTQLQSK	C114 C127 C46 C59 C46 C59 C114 C127 C114 C127 C114 C127 C46 C59 C46 C59 C114 C127 C114 C127	1.01412	Q9Y5B0 A0A0J9YWJ4 K7EJD2 Q9Y5B0 A0A0J9YWB6 Q9Y5B0 A0A0J9YWJ4 K7EJD2 Q9Y5B0 A0A0J9YWB6	2
GEHGFIC*R	C397 C119 C119 C119 C397	1.012675	Q16658 A0A0A0MSB2 C9JFC0 C9JPH9 Q16658	2
LCLNIC*VGESGDR	C24 C25 C23 C24 C25 C23 C24 C25 C23	1.01142	P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8 P62913 P62913 Q5VVC8	2
LSLQNC*CLTGAGCGVLSSTLR	C95 C95	1.010786667	P13489 P13489	2
NGLQSC*PIKEDSFLQR	C1058	1.000203333	P00533	2
DLEIERPMPGTHVTTLQCPALLVVGDSPPAVDAV VEC*NSK	C272	0.990813333	Q92597	2
SQQEIC*EQLNINHIQR	C79 C79	0.99046	Q14139 Q14139	2
TGNGPMSVC*GR	C499 C490 C493 C574 C491 C499 C490 C493 C574 C491	0.9816	O95793 A0A087 O95793 O95793 Q5JW30 O95793 A0A087 O95793 O95793 Q5JW30	2
GYDFC*QVLQWFAER	C175 C175 C175 C175	0.981443333	Q9H223 A0A087WUA5 Q9H223 A0A087WUA5	2
EAESDC*LQGFQLTH	C111 C129 C129 C129 C129	0.97955	Q5JP53 P68371 P04350 Q3ZCM7 A6NNZ2	2
QNSDFLC*QMDLLQEFYETTLEALKDAK	C130 C130	0.964865	P61201 P61201	3
YMNGHSDVVMGLVSVNC*ESLHNR	C229 C229	0.96165	P32929 P32929	2
VGVDYEGGGC*R	C680 C727 C680 C727	0.961086	Q02809 Q02809 Q02809 Q02809	3
MSSYAFFVQTC*R	C23 C23 C23 C23 C23 C23 C23 C23 C23 C23	0.95836	Q5T7C4 B2RPK0 D6R9A6 P26583 P09429 Q5T7C4 B2RPK0 D6R9A6 P26583 P09429	2

IIWCPFIPEESEDCC*EESPTVALLHEDR	C249	0.95668	Q6P2E9	2
GLC*ESVVEADLVEALEK	C79 C84 C84 C84 C79 C84 C79 C84 C84 C84 C79 C84	0.95633	Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3 Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3	2
ALVLELC*CNDESGEDVEVPYVR	C1039 C999 C1039 C999	0.954105	P22314 P22314 P22314 P22314	2
QLDMSLLC*QLYSLYESIQEYK	C109	0.952566667	Q96GI7	2
SMVSPVPSPTGTISVPNSC*PASPR	C254 C254	0.949922857	P85037 P85037	3
VDEFPLC*GHMVSDEYEQLSSEALEAAR	C49 C49 C49 C49 C49 C49 C49	0.94408	P27635 P27635 P27635 P27635 P27635	3
LYDVC*PHVSDSGLFFDDSYGFYPGQVLIGPAK	C244 C244	0.938015	Q9C0C9 Q9C0C9	2
AHQSESYLPIGC*K	C255 C346	0.929865	O75815 O75815	2
GVGTDEAC*LIEILASR	C261 C294 C261 C294	0.9217925	P50995 P50995 P50995 P50995	3
LECVENPC*R	C77 C77 C77 C77 C113	0.8973125	H7BZ11 Q969Q0 H0Y5B4 P83881 J3KQN4	3
VC*ATLPSTVAVTSVCWSPK	C186 C186 C186 C186 C186 C186 C186 C186 C186 C186	0.89645	P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658	2
RQDFNPC*EYDLK	C48 C48 C48	0.89157	Q9BZE9 Q9BZE9 Q9BZE9	2
DAFEHIVTQFSSVPVSVSDSYDIYNAC*EK	C287 C287 C287 C287 C287	0.8913	P43490 P43490 P43490 P43490 P43490	3
LELLVGSPASC*MELELYGVDDKFYSK	C51	0.890636667	Q99426	3
VDPPFRPC*LQSEEDVSQFDTR	C348 C348	0.890295	Q9UBS0 Q9UBS0	2
GNWYPYNGQC*LPDIDSEEFYFCVK	C352 C352 C352 C352 C242	0.889896667	Q5GLZ8 Q5GLZ8 Q5GLZ8 Q5GLZ8 Q5GLZ8	2
LDSSAC*LHAVGDK	C247 C247	0.888413333	O94808 O94808	2
MVSDINNAWGC*LEQVEK	C370 C370	0.88549	P12814 P12814	3
NLLC*GFYGR	C247 C247 C247 C247	0.8853975	Q9UH17 B0QYD3 Q9UH17 B0QYD3	2
QASVGAGIPYSVPAWSCQMIC*GSGLK	C92 C92 C92	0.88027	Q9BWD1 Q9BWD1 Q9BWD1	3
C*PGESLINPGFK	C180 C180	0.87236	Q9BUH6 Q9BUH6	2
HLYTLDDGGDIINALC*FSPNR	C240 C240	0.870232727	P63244 P63244	3
DILFPYIEENVKEYLQTHWEEEEEC*QQDV	C52 C52 C52 C52	0.864705	Q9UHY7 A0A087WTH0 Q9UHY7 A0A087WTH0	2
VAMTAEAC*SR	C355 C292 C303 C278 C355 C292 C303 C278	0.86376	Q12933 Q12933 Q12933 Q12933 Q12933 Q12933 Q12933 Q12933	2
FLEQQTLC*NNQVNDLTTALK	C218 C296	0.859875	V9GY01 Q9Y448	2
FTDDTFC*EACK	C68 C68	0.854206	Q6IQ22 Q6IQ22	3
GVLLYGPPGC*GK	C137 C137 C137 C137 C137	0.848453333	Q8NBU5 Q8NBU5 Q8NBU5 Q8NBU5 Q8NBU5	3
SSGQAQLLSHEPGDPPC*LR	C522 C522	0.847035	H3BVG0 Q8N1F7	2
TVNIWQFDLETLC*QAR	C316 C316 C316 C316	0.846026667	B8ZZF2 Q8N9V3 B8ZZF2 Q8N9V3	2
VVEPYNATLSIHQLVENTDETYC*IDNEALYDIC*F R	C548 C558 C201 C211	0.84416	A0A0B4J269 Q13509	3
LSLQNCCL*LTGAGCGVLSSTLR	C96	0.84018	P13489	2
PWVLTC*CLLNNLDEDGDLVAFSSDEELTMAMSY VKDDIFR	C85 C85	0.834405	E3W990 E3W990	2

TREEEC*HFYAGGQVYPGEASR	C51 C51 C51	0.825615	Q13162 Q13162 Q13162	3
	C114 C114 C114 C114 C114 C114 C286 C114 C114 C114 C114 C114 C114 C114 C114 C114 C114 C114 C114 C114 C114 C286 C114 C114 C114 C114 C114 C114 C114 C114		Q07866 G3V2E7 Q07866 Q07866 Q07866 G3V5R9 E7EVH7 Q07866 F8W6L3 Q07866 Q07866 Q07866 Q07866 G3V3H3 Q07866 Q07866 G3V2E7 Q07866 Q07866 Q07866 G3V5R9 E7EVH7 Q07866 F8W6L3 Q07866 Q07866 Q07866 Q07866 G3V3H3 Q07866	
LC*QENQWLRDELANTQQK	C114 C114 C114	0.82408	G3V3H3 Q07866	2
C*MLTDFILK	C54 C54	0.820666667	E7EPB3 P50914	2
EMASC*ITQR	C114	0.820065	Q969E8	2
SLGTPEDGMAVC*MFMQNTLRFMSR	C52 C52	0.8182625	H0Y525 H0Y525	3
	C24 C24 C24 C24 C24 C24 C24 C24 C24 C24 C24 C24 C24 C24	0.817613333	G5EA39 F5H6E4 P60006 P60006 F8WDQ6 F5H3R3 F5H2T3 G5EA39 F5H6E4 P60006 P60006 F8WDQ6 F5H3R3 F5H2T3	2
VTETLWFNLDPRC*VEETELQQEQQHAWLQS IAEK	C214 C214	0.81037	P31153 P31153	2
VHTIVISVQHDEEVC*LDEMR			P30153 P30154 P30154 P30154 P30153 P30154 P30154 P30154 P30153 P30154 P30154 P30154	3
LNISNLDC*VNEVIGIR	C390 C402 C402 C357 C390 C275 C402 C402 C390 C275 C402 C402	0.80103	F5H578 O75400 H0YG38 O75400	2
LSGSSLC*SGSWVSADGFLR	C39 C39 C32 C39	0.787605	P04818	2
IIMC*AWNPR	C180	0.786725	O75694 O75694 O75694 O75694	2
EITAIESSVPC*QLLESVLQELK	C704 C645 C704 C645	0.7837		2
	C388 C183 C259 C389 C394 C386 C321 C270 C388 C259 C388 C183 C259 C389 C394 C386 C321 C270	0.777253333	B3KRD1 B7Z4D2 A0A0C4DG86 B7Z4D2 B3KRD1 B7Z4D2 A0A0C4DG86	3
LESLQSMEMAHSGSLRDELIC*LDFPCDSPEK	C405 C405 C405 C405	0.771355	P17655 P17655 P17655 P17655	2
LEEEDEDEEDGESGC*TFLVGLIQK	C393 C394 C376 C430 C412 C375	0.77096	E5KLJ6 E5KLJ9 E5KLK1 E5KLJ5 O60313 O60313	2
EGC*TVSPETISLNVK			Q9UDY2 Q9UDY2 Q9UDY2 Q9UDY2 Q9UDY2 Q9UDY2 Q9UDY2 Q9UDY2	2
MSYLTAMGADYLSC*DSR	C945 C891 C945 C891 C918 C914 C914 C914	0.762155	P11766 P11766	2
VCLLGC*GISTGYAAVNTAK	C174 C174	0.7618775		2
NCSEPYCPLGCSRVC*VDGQCICDSEYSRDD C*SELR	C214 C230 C214 C230 C214 C230 C214 C230	0.757075	Q92752 Q92752 Q92752 Q92752	2
LHTPMYFFLSNLSCVDIC*FTTSVAPQLLVTMNK	C72 C72 C72 C72	0.75459	Q5TZ20 Q5TZ20 Q5TZ20 Q5TZ20	3
	C225 C225 C225 C225 C225 C225 C225 C225 C225 C225	0.752326667	A8MST6 Q5JTW2 Q5JTW2 Q5JTW2 Q5JTW2 A8MST6 Q5JTW2 Q5JTW2 Q5JTW2 Q5JTW2	2
RPDLDC*MAGLR				2
ILLNACC*PGWVR	C227 C227	0.75221	P16152 P16152	2

			Q96RU3 Q96RU3 H0Y7W6 Q96RU3 B7ZL14 Q96RU3 Q96RU3 Q96RU3 Q96RU3 Q96RU3 B7ZL14 Q96RU3 Q96RU3 Q96RU3 Q96RU3 Q96RU3 B7ZL14 Q96RU3 Q96RU3	
NEDEEGYVPTSYVEVC*LDK	C604 C543 C556 C609 C543 C604 C580 C604 C543 C609 C543 C604 C580 C604 C543 C609 C543 C604 C580	0.74321		2
AMELLSAC*QGPAR	C104 C91	0.729416667	O60551 Q5VUC6	2
YAC*GLWGLSPASR	C457 C26 C175 C26 C457 C457 C26 C175 C457 C26 C175	0.72205	Q15637 H7C0N4 H7C561 H7C0N4 Q15637 Q15637 H7C0N4 H7C561 Q15637 H7C0N4 H7C561	3
EVLQVC*YR	C179 C244	0.704125	Q15459 Q15459	2
C*TGGEVGATSALAPK	C17 C17 C17	0.697143333	P30050 P30050 P30050	2
ERPC*SAIYPTPEPSQR	C1732 C1723 C1732 C1732 C1723 C1732	0.69269	Q8N110 Q8N110 Q8N110 Q8N110 Q8N110 Q8N110	3
IIVPFVTC*GDLSSYSDSR	C238 C236 C238 C236	0.682556667	Q9UET6 Q9UET6 Q9UET6 Q9UET6	3
VVLLGEFLHPC*EDDIVCK	C80 C80 C80 C80 C80 C80	0.643854	Q9NY12 Q9NY12 Q9NY12 Q9NY12 Q9NY12 Q9NY12	3
LC*ASGAGATPDTAIEEIKEK	C31 C31 C31 C31 C31 C31 C31 C31	0.637742	P53384 P53384 P53384 P53384 P53384 P53384 P53384 P53384	3
ACFC*IDNEALYDICFR	C201 C201	0.627	Q9H4B7 Q9H4B7	2
LC*EPEVLNSLEETYSPPFR	C242 C261 C227 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261	0.617873333	Q6PJT7 G3V256 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7	3
SCTVSINFGPC*FK	C487 C442 C581 C487 C442 C581	0.61064	Q9UBL3 F5H8F7 Q9UBL3 Q9UBL3 F5H8F7 Q9UBL3	2
GSDPFASDC*FFR	C657 C523	0.60236	P42566 B1AUU8	2
ALANSLAC*QGK	C393 C339 C393 C339 C393 C339	0.596086667	P04075 P04075 P04075 P04075 P04075 P04075	3
SAC*DTVDTWLDDTAK	C4216 C4216 C4216 C4216	0.58573625	Q14204 Q14204 Q14204 Q14204	3
ASFENNC*EIGCFAK	C11 C11	0.584606667	P56537 P56537	3
MQQPQPQQQQPGPGQQLGGQGAAPGAGGG PGGGPGPGPC*LR	C40 C40	0.58003	Q7Z7E8 Q7Z7E8	2
LAPILC*DGTATFVLDLVPGR	C568 C568 C568	0.5754825	O43264 O43264 O43264	2
ATDYPC*LLILDQNEFETLR	C145 C145 C145	0.573972	Q9NVG8 Q9NVG8 Q9NVG8	2
TC*SFGGFDLTNR	C406	0.563995	O94885	2

FC*DNVWTFVLNDVEFR	C68 C68 C68	0.548623333	P52657 P52657 P52657	2
NCDC*LQGFLTHSLGGGTGSGMGTLLISK	C476 C129	0.52077	A0A0B4J269 Q13509	2
C*GVPDVAQFVLTEGNPR	C92 C92 C92	0.513086	P03956 P03956 P03956	3
FFAPEC*GR	C222 C376 C154 C370 C508 C479 C222 C376 C154 C370 C508 C479	0.46954	H0Y8Y3 Q96HC4 A0A0A0MSP3 Q96HC4 Q96HC4 Q96HC4 H0Y8Y3 Q96HC4 A0A0A0MSP3 Q96HC4 Q96HC4 Q96HC4	2
DYVLNC*SILNPLLTLLTK	C208 C208	0.450355	O60684 O60684	2
DVLKEEGVSFLINTFEGGGC*GQPSGILAQPTLLY LR	C1229 C1229	0.438155	P78527 P78527	2
PFC*EDLDQWLEDDNHVAAIHC*KAGK	C105 C124 C71 C90 C278 C297 C90 C109 C278 C297 C105 C124 C71 C90 C278 C297 C90 C109 C278 C297 C105 C124 C71 C90 C278 C297 C90 C109 C278 C297	0.425493333	P60484 A0A087WT17 P60484 P60484 A0A0U1RR63 P60484 A0A087WT17 P60484 P60484 A0A0U1RR63 P60484 A0A087WT17 P60484 P60484 A0A0U1RR63	2
NIELIC*QENEGENDPVLQR	C228 C228	0.358945	Q15691 Q15691	2
APASAAASEDAPYPVC*TVR	C598 C599 C599	0.3468375	P41226 P41226	2
KEC*ENCDCLQGFQLTHSLGGGTGSGMGTLLISK	C471 C124	0.34026	A0A0B4J269 Q13509	2
GC*AFVTFTR	C150 C177 C132 C149 C150 C150 C176 C150 C177 C132 C149 C150 C150 C176	0.336285	Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879 Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879	2
EIFLSQPILLELEAPLKIC*GIQEQLSGS	C33 C33	0.315425	F8WE71 F8WE71	2
LQSAMALFAC*KTLGLK	C3695 C3702 C3695 C3702 C88 C3695 C3702 C88 C3695 C3702	0.2943075	Q8NCM8 Q8NCM8 Q8NCM8 Q8NCM8 H0YDE0 Q8NCM8 Q8NCM8 H0YDE0 Q8NCM8 Q8NCM8	2
SC*LDYQTQETK	C110 C110 C110	0.26851	O43572 O43572 E7EMD6	3
YVLC*TAPR	C405 C370 C360	0.263025	P25205 J3KQ69 P25205	2
C*TVFHGAQVEDAFR	C1828 C1828	0.255586667	P49327 P49327	2
YLISAGEDC*VCLVWSHEGEILQAFR	C308 C278 C227 C308 C278	0.254925	A0A087 Q9NNW5 E9PDU5 A0A087 Q9NNW5	2
ALSGYC*GFMAANLYAR	C888	0.23706	P53618	2
IVDAVIQEHQPSVLELGGAYC*GYSAVR	C119 C69 C119 C69 C119 C69	0.22988	P21964 P21964 P21964 P21964 P21964 P21964	3
VGAVGMAC*AISILMKDLADELALVDVIEDK	C35 C64	0.20971	P00338 P00338	2
MAAPAPGAGAASGGAGC*SGGGAGAGAGSGSG AAGAGGR	C17	0.203013333	P0C2W1	2
FSGDLDDQTC*R	C245 C245	0.190605	P05455 P05455	2
AHTC*FNRLDLPYETFEDLR	C801 C922 C914 C821 C838 C942 C801 C878 C606 C922 C934 C914	0.18886	Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5 Q96PU5	2

			K7ERN1 Q96PU5 Q96PU5 Q96PU5	
DSHEDGDYYEVDINGPEILAC*K	C437 C437 C437 C437 C437 C437	0.18404	Q8TD16 Q8TD16 Q8TD16 Q8TD16 Q8TD16 Q8TD16	2
SLLESC*PINC*QLLEALVALYLQTNQHDK	C1632 C1636 C1632 C1636 C1632 C1636 C1632 C1636	0.17279	O60293 O60293 O60293 O60293	2
ALADAQIPYSAVDQACVGYVFGDSTC*GQR	C71 C71	0.17051	P22307 P22307	2
SESC*DC*LQGFQLTHSLGGGTGSGMGTLISK	C127 C129 C127 C129 C127 C129 C127 C129 C127 C129	0.140246667	Q9BVA1 Q9BVA1 Q9BVA1 Q13885 Q13885	3
PNPRPVFGIC*LGHQLLALAIGAK	C252 C252	0.134975	P27708 P27708	2
GYIGTHCGQPVC*ESGCLNGGRC*VAPNR	C150 C160 C150 C160	0.083855	F6U495 P35555	2
VIDQHGC*EAIAR	C47 C23 C47	0.08216	Q5EBL4 Q5EBL4 Q5EBL4	2
QMTEQVRSIC*K	C358 C470 C302 C424 C425 C470 C424 C425	0.07325	J3QL54 Q9BW27 Q9BW27 Q9BW27 J3KT10 Q9BW27 Q9BW27 J3KT10	2
NTETWGLWQPWSQC*SATC*GDGVRER	C352 C356 C352 C356	0.06767	Q9NS62 Q9NS62	2
AHGLSLIPSTGLC*SPDLVNR	C244 C413 C306 C391 C388 C397 C412 C406 C382 C407 C355 C300 C244 C413 C306 C391 C388 C397 C412 C406 C382 C407 C355 C300	0.06462	O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030 O75030	2
MRECISIHVGQAGVQIGNAC*WELYC*LEHGIQP	C20 C25 C20 C25 C20 C25 C20 C25 C20 C25 C20 C25 C20 C25	0.058434	P68363 Q71U36 Q9BQE3 Q13748 P68363 Q71U36 Q13748	3
CAIIPSDMLHISTNC*R	C245 C214 C214 C220 C190 C253 C214	0.030566667	Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5	2
NPIMSQC*FDR	C566 C561 C550 C585 C566 C561 C550 C585	0.03017	O00159 F5H6E2 O00159 O00159 O00159 F5H6E2 O00159 O00159	2
TFFGDDFIPNDILIGC*EEEEQENGK	C1117 C1117 C987 C815	0.022075	P52701 P52701 P52701 P52701	2
ESNINLC*GSHC*GVSIGEDGPSQMALEDLAMFR	C421 C425	0.01652	P29401	2
SAGC*AAYMAPER	C323 C280 C296	0.00844	O14733	3
FFAFWGQDINNLTTPLEC*GRESR	C80 C635 C735 C93 C118	0.000436667	Q8NCN5 A8MT40 B7ZAR9 H3BV59 H3BUH3	3

AMR 3-170

Peptide	Modified Residue	Avg. Ratio	Uniprot ID	seen in
SYPDTDVILMC*FSIDSPDSLENIPEKWTPEVK	C83	769.356395	C9JNR4 P61586 P08134 Q5JR08	3
TGTQEVGGQDPGEAVQPC*R	C443 C443 C391	501.8407925	Q9NZT2 Q9NZT2 A0A0A0MRN5	3
IC*QADIVEAVDIASAAK	C107 C172	339.75396	A0A0G2JL1 A0A140T9L0 O15213	3
VEQNSEPC*AGSSSESDLQTVFKNESLNAESK	C260 C184 C260 C184	305.849492	Q8N806 E9PCJ7 Q8N806 E9PCJ7	3
LSNVAPPC*ILR	C182 C182 C167	262.500945	C9JB30 Q9UPY8 Q9UPY8 C9JB30	3
NMITGTAPLDGC*ILVVAANDGPMPQTR	C147 C147 C147	253.8653775	P49411 P49411 P49411	3
IPC*DSPQSDPVDTPSTK	C1250 C1251 C1250 C1251 C1251 C1250	253.546185	A0A087WV66 P46013 A0A087WV66 P46013 P46013 A0A087WV66	3
LPGETLITDKEVIYIC*PFNGPIK	C53 C53 C53 C53 C53 C53	253.4347025	Q13496 Q13496 Q13496 Q13496 Q13496 Q13496	3
GVLFVPGAFTPGC*SK	C100 C100 C48	253.391295	P30044 P30044 P30044	3
IVLAGC*PEVSGPTLLAK	C39 C39 C39	252.670195	Q96EM0 Q96EM0 Q96EM0	3
QQIACIGGPPNIC*LDR	C259 C259	204.433672	P40763 P40763	3
YSEEANNLIEEC*EQAER	C131 C131 C131	203.273608	Q96HE7 Q96HE7 Q96HE7	3
WNTDNTLGTETIAIEDQIC*QGLK	C103 C103 C103 C103	179.9364967	P45880 A0A0A0MR02 P45880 P45880	3
WASGLTPAQNC*PR	C115 C115 C115 C115 C115 C115 C115 C115 C58	171.8796917	A2AB90 O15533 Q6P1N7 O15533 A0A0A0MSV9 A0A0G2JKZ1 A0A0G2JH37 O15533 C9JA35	3
SSSSSSASAAAAAASSASC*SR	C100 C100 C100 C100 C100	171.5852267	Q07065 Q07065 Q07065 Q07065 Q07065	3
LILADALC*YAHTFNPK	C345 C376 C345 C376	170.4463617	P28838 P28838 P28838 P28838	3
TYLLDGSC*MVEESGTLESQLEATK	C2213 C2238 C2233 C2218 C2213 C2238	168.9366817	Q13813 A0A0D9SF54	3
GLAPLHWADDDGNPTEQYPLNPNPSPGGVAGIC SC*DGR	C1287 C1287 C1287 C1287 C1287	147.7374525	O15067 O15067 O15067 O15067 O15067	3
WGTEIVENTHHC*EFAYLR	C513 C367 C524 C531 C512 C367 C512	145.0429536	Q9UHD8	3
EGTQASEGYFSQSQEEFFAQSEELC*AK	C659 C615 C613	137.22654	Q16643	3
LQEALDAEMLEDEAGGGGAGPGGAC*K	C57 C57 C57 C57	137.0337575	H3BQZ7 Q1KMD3 H3BQZ7 Q1KMD3	3
AGKPVIC*ATQMLESMIK	C326 C326 C252 C326 C326	135.47041	P14618 P14618 B4DNK4 P14618 H3BTN5	3
EILKWEALHAAEPC*GPSLIR	C178 C178	131.7765375	P53701 P53701	3
DTGTVHLNELLGNTQNFMLLC*PR	C126 C126 C126	131.6023488	Q2NL82 Q2NL82 I3L1Q5	3
ADHQPLTEASYVNLPTIALC*NTDSPLR	C148 C153 C148	129.4203825	C9J9K3 A0A0C4DG17 P08865	3
TTLIC*GTLDYLPPEMIEGR	C290 C290 C290	128.14006	O14965 A3KFJ0 O14965	3
WTQTLSELDAVPFC*VNFR	C188 C188 C188 C188	122.9250623	Q9Y266 Q9Y266 Q9Y266 Q9Y266	3
SVLC*STPTINIPASPFMQK	C22	114.9951367	Q96KB5	3
AGSDGESIGNC*PFSQR	C35 C35	113.6074311	Q9Y696 Q9Y696	3
FLSQIESDC*LALLQVR	C794 C794 C794 C794 C794 C794	113.3077933	P52789 P52789 P52789 P52789 P52789 P52789	3
VQPQWSPAGTQPC*R	C27 C40 C110	113.3069778	P49589 B4DKY1 P49589	3
YADLTEDQLPSC*ESLKDTIAR	C153 C153	106.474286	P18669 P18669	3

LMSANASDLPLSIEC*FMNDVDVSGTMNR	C290 C290 C290 C290 C290	103.978446	P34932 A0A087WTS8 A0A087WYC1 P34932 A0A087WYC1	3
EENVGLHQTLDQTLNELNC*I	C283 C109 C247 C283 C109 C247 C283 C109 C247	95.83322182	P67936 K7EPB9 P67936 P67936 K7EPB9 P67936 P67936 K7EPB9 P67936	3
IVGIGYNGMPNGC*SDDVLPWR	C71 C60 C71 C60 C60 C60 C71 C60 C60 C60 C60 C60	95.26292818	P32321 P32321 P32321 P32321 D6RBJ9 D6R9S0 P32321 P32321 D6RBJ9 D6RAR9 D6RBN2 D6RC36	3
SPWLAGNELTVADVVLWSVLQQIGGC*SVTPA NVQR	C291 C291 C291 C291 C291 C291 C291 C291	85.9523425	Q13155 Q13155 Q13155 Q13155 Q13155 Q13155 Q13155 Q13155	3
EGIC*ALGGTSELSSEGTQHSYSEEEKYAFVNWINK	C104 C104 C104 C104 C104 C104 C104	78.4067725	P13797 P13797 P13797 P13797 P13797 P13797 P13797	3
DLETLKSLC*R	C151 C308 C340 C151 C308 C308 C308 C340 C71 C151 C308 C308 C308 C340 C71	76.03672	Q86YD1 M0QY25 Q86YD1 Q86YD1 M0QY25 Q86YD1 A0A0C4DGR2 Q86YD1 M0QYH6 Q86YD1 M0QY25 Q86YD1 A0A0C4DGR2 Q86YD1 M0QYH6	3
VDLNSNGFIC*DYELHELFEKANMPLPGYK	C33	74.63107533	P13797	3
GFVTMTLESLEEQDVSC*AWK	C603 C603	73.88454267	Q9BQ39 Q9BQ39	3
VQEAPIDEHWIIEC*NDGVFQR	C91	71.40018067	Q14353	3
NAIDDGC*VVPGAGAVEVAMAEALIK	C406	69.02054467	P40227	3
AKC*ELSSSVQTDINLPLYLTMDSGGPK	C317 C317 C317 C317 C22 C317	63.66903265	P38646 P38646 P38646 P38646 H0YBG6 P38646	3
STFFNVLNSQASAEVFPFC*TIDPNESRVPVPPER	C55 C75 C55 C75 C55 C75	58.57590556	Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32	3
VDVEC*PDVNIIEGPEGK	C2806 C2806 C2806 C2806	57.94966789	Q09666 Q09666 Q09666 Q09666	3
KAAAPAPEEEMDEC*EQALAAEPK	C316 C266 C316 C266 C316 C266 C316 C266 C316 C266	57.79921946	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	3
VC*TLAIIDPGSDIIR	C92 C92 C92 C92 C92 C92	56.20400632	P62888 E5RI99 P62888 E5RI99 P62888 E5RI99	3
GC*IVDANLSVLNLVIVK	C100 C100 C100 C100	55.4374575	P62753 P62753 P62753 P62753	3
TC*FETFPDKVAIQLNDTHPALSIPELMR	C326 C326 C326 C326 C326	54.942191	P11216 P11216 P11216 P11216 P11216	3
RPTEIC*ADPQFIIGGATR	C82 C82	50.74104857	P17655 P17655	3
NQSC*PTVNLDKLWTLVSEQTR	C70 C70 C70 C70 C70 C70 C13 C70 C70 C13 C70 C70	48.49670409	E9PLL6 P46776 E9PLL6 P46776 E9PLL6 P46776 E9PJD9 E9PLL6 P46776 E9PJD9 E9PLL6 P46776	3
YGHC*MEDLIHEIYTVGKR	C186 C146	47.82540022	P18124 A8MUD9	3
YSNSDVIIYVGC*GER	C277 C277 C277 C244 C277 C244 C277 C244	46.89954667	P38606 P38606 P38606 P38606 P38606 P38606 P38606 P38606	3
FDPTQFQDC*IIQGLTETGTDLEAVAK	C39 C67 C35	46.16603913	Q7L1Q6 Q7L1Q6 Q7L1Q6	3
ITAFVPNDGC*LNFIENDEVLVAGFGRK	C90 C90	44.0710651	P62266 P62266	3
RVFIMDSC*DELIPEYLNfir	C366 C366	43.85493608	P08238 P08238	3
GTHTGVVVGVSGETSEALSrdPETLVGYSMVGC *QR	C135 C135 C135	42.8801716	P49327 P49327 P49327	3
LC*YVALDFENEMATAASSSSLEK	C219 C219 C219 C219 C219 C219 C219 C219	42.47666259	P68032 P68032 P68032 P68133 P68032 P68133 P68032 P68032	3
HDDSSDNFC*EADDIQSPEAEYDLLLLNPER	C166 C166	42.44361419	Q96HE7 Q96HE7	3

AITIAGVPQSVTEC*VK	C158 C158	39.3473	Q15365 Q15365	3
LC*YVALDFEQEMATAASSSSLEK	C217 C217 C217 C217 C917 C917 C217 C217 C917 C217 C217 C217 C217 C917 C917	38.67509339	P60709 P63261 P60709 P63261 Q658J3 Q658J3 P60709 P63261 Q658J3 P60709 P63261 P60709 P63261 Q658J3 Q658J3	3
EGTDSSQGIPQLVSNISAC*QVIAEAVR	C29 C29 C29 C29 C29 C29 C29 C29	30.79308861	Q99832 Q99832 Q99832 Q99832 Q99832 Q99832 Q99832 Q99832	3
VNQAIWLLC*TGAR	C176 C155 C155	27.40393333	M0R0R2 M0R0F0 P46782	3
EEFASTC*PDDEEIELAYEQVAK	C223 C223 C223 C223	27.125725	O00299 O00299 O00299 O00299	3
VAASC*GAIQYIPTELDQVRK	C134	24.871238	Q7L2H7	3
VGILDVDLC*GPSIPR	C54 C54	24.458585	Q9Y5Y2 Q9Y5Y2	3
MYGISLC*QAILDETKGDYK	C324 C324 C324 C324	24.11211391	P04083 P04083 P04083 P04083	3
NESC*SENYTTDFIYQLYSEEGK	C641 C641 C641 C641	23.93339204	Q01813 Q01813 Q01813 Q01813	3
IIQFQATPC*PK	C298 C300 C313 C278 C299 C298 C300 C224 C313 C278 C299 C238 C298 C299 C300 C224 C313 C278 C299 C238	20.46394333	Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330 D6R927 Q06330 Q06330 Q06330 Q06330 Q06330 Q06330	3
DNTIEHLLPLFLAQLKDEC*P	C377 C377 C377 C377 C377 C377 C377	20.16021343	P30153 P30153 P30153 P30153 P30153 P30153 P30153	3
NHLVSATMSGVTTTC*LR	C221 C135 C239 C239 C239 C239 C202 C205 C239 C221 C239 C239 C239 C239 C239 C205 C202 C239	20.09528289	Q5JP53 M0R2D3 P68371 Q9BVA1 Q13885 P04350 A0A075B736 Q55QY0 Q3ZCM7 Q5JP53 P68371 P04350 Q9BVA1 Q13885 A6NNZ2 Q55QY0 A0A075B736 Q3ZCM7	3
YIYDQC*PAVAGYGPQIQLPDYNR	C453 C453 C453	19.3113	P31930 P31930 P31930	3
IVDMVPGKPMC*VESFSDYPLGR	C411 C390	18.82968595	P68104 P68104	3
VDVFREDLC*TK	C22 C22 C22 C22	17.96984	Q06323 Q06323 Q06323 Q06323	3
VMALQEAC*EAYLVGLFEDTNLCAIHAK	C97	17.05342538	P68431	3
VC*EDLDTSVNLAWTSGTNCTR	C210 C210 C210 C210 C210 C210	17.00199273	P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880 P45880	3
VC*EEIAIIPSKK	C35 C35 C35 C35 C35 C35	14.09028364	A0A075B716 HOYN88 P08708 A0A075B716 HOYN88 P08708	3
VAVSADPNVNVVVVGLTLVC*SSAPGPLELDLTDG DLESFKK	C79 C79 C79 C79 C79	13.74258875	P52565 P52565 J3KRY1 J3KTF8	3
VLILDEATSALDVQC*EQALQDWNSR	C641 C641 C641 C641	13.39409571	Q03519 A0A0G2JLV0 A0A087WYD6	3
LPLMEC*VQMTQDVQK	C360 C360 C360 C360	13.12976263	Q01813 Q01813 Q01813 Q01813	3
VQTDAFVSNELDDPDDLQC*KR	C465 C486 C462 C485 C464 C465 C486 C462 C485 C464	13.011951	Q9UI10 E7ERK9 A0A087WTA5 Q9UI10 Q9UI10 Q9UI10 E7ERK9 A0A087WTA5 Q9UI10 Q9UI10	3
VAAALENTHLLEVVNQC*LSAR	C158 C158 C158 C158	12.9195775	Q9Y3D0 Q9Y3D0 Q9Y3D0 Q9Y3D0	3
ERPTSLNNNC*TTSEDSLVLVNR	C744 C744	12.68978571	P07814 P07814	3
FGNSEFDPGPNVATTVSDDVSMTFITSKEDLNC *QEEEDPMNK	C139 C139 C139 C139	12.28443167	O75821 O75821 O75821 O75821	3
SLEPSPSPGQEEEDGEVALVLLGRPSGAVGPEDV ALC*SSR	C1637 C1637 C1612 C1531 C1531 C1612 C1637 C632 C1637	11.23231667	Q14160 A0A0G2JPP5 A0A0G2JN22 Q14160 A0A0G2JMS7 Q14160 Q14160	3

	C1612 C1531 C1531 C1612 C1637 C1637 C1612 C1531 C1531 C1612		H0YCG0 A0A0G2JPP5 A0A0G2JN22 Q14160 A0A0G2JMS7 Q14160 Q14160 A0A0G2JPP5 A0A0G2JN22 Q14160 A0A0G2JMS7 Q14160	
AYHEQLSVAEITNAC*FEPANQMVK	C295 C295	10.81663411	P68363 P68363 Q71U36 Q71U36 P68366 P68366 Q13748 Q13748 P68363 P68363 P68363 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 Q13748 Q13748 Q13748 Q71U36 Q71U36 Q71U36 P68366 P68366 P68366 Q13748 Q13748 Q13748	3
TNC*NVAVINVGAPAAGMNAAVR	C411 C411 C411	10.78701333	Q01813 Q01813 Q01813	3
C*SDNTEVEVSNLENKQPVVESTSAK	C71 C71 C71 C71 C71	10.398025	Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6 Q9NQW6	3
EC*PSDEC*GAGVFMASHFDR	C121 C126	10.302484	P62979	3
AAAGELQEDSGLC*VLAR	C172 C172	10.30212556	Q96C19 Q96C19	3
VSDTVVEPYNATLSVHQLVENTDETYC*IDNEALY DIC*FR	C164 C174 C164 C174 C164 C174 C201 C211 C201 C211 C201 C211 C183 C193 C183 C193 C183 C193 C97 C107 C97 C107 C97 C107 C201 C211 C201 C211 C201 C211 C131 C141 C131 C141 C131 C141 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C115 C125 C115 C125 C115 C125 C183 C193 C201 C211 C131 C141 C201 C211 C201 C211 C201 C211 C183 C193 C183 C193 C201 C211 C201 C211 C131 C141 C131 C141 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211	10.037172	K7ESM5 K7ESM5 K7ESM5 Q9BUF5 Q9BUF5 Q9BUF5 Q5JP53 Q5JP53 Q5JP53 MOR2D3 MOR2D3 MOR2D3 P68371 P68371 P68371 M0QYM7 M0QYM7 M0QYM7 Q9BVA1 Q9BVA1 Q9BVA1 P04350 P04350 P04350 MOR042 MOR042 MOR042 Q5JP53 P68371 M0QYM7 P04350 Q9BUF5 Q9BVA1 Q5JP53 Q5JP53 P68371 P68371 M0QYM7 M0QYM7 Q9BUF5 Q9BUF5 P04350 P04350 Q9BVA1 Q9BVA1	3
THC*PYAVALPEVAPAQLTEALR	C673 C673 C673	9.845565714	Q6PJG6 Q6PJG6 Q6PJG6	3
ATELFVQC*LATYSYR	C55 C55 C55 C55 C55 C55 C55	9.734113	Q9NRG0 Q9NRG0 Q9NRG0 Q9NRG0 Q9NRG0 Q9NRG0 Q9NRG0	3
AVAWC*PWQSNVLATGGGTSR	C364 C364	9.462492857	Q12834 Q12834	3
IIDLEEADEIEDIQQEITVLSQC*DSSYVTK	C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77 C77	9.452158571	Q9P289 B4E0Y9 Q8NBY1 Q9P289 Q9P289 B4E0Y9 Q8NBY1 Q9P289 Q9P289 B4E0Y9 Q8NBY1 Q9P289 Q9P289 B4E0Y9 Q8NBY1 Q9P289	3
LEGDLTGPVSVGVEVPDVELEC*PDAK	C1900 C1900 C1900	9.356944444	Q09666 Q09666 Q09666	3

KHGLEVIYMIPIDEYC*VQQLK	C529 C651 C529 C651	9.245743333	P07900 P07900 P07900 P07900	3
INALTAASEAAC*LIVSVDETIKNPR	C511 C511 C511 C511 C511	9.159106667	Q99832 Q99832 Q99832 Q99832 Q99832	3
GVAQTPGSVEEDALLC*GPVSK	C79 C79 C79 C79 C79 C79	9.13293	Q5QPE8 Q9BQP7 Q5QPE7 Q5QPE8 Q9BQP7 Q9BQP7	3
SC*GSSTPDEFPTDIPGTK	C105 C105 C105	8.906431429	P41091 P41091 P41091	3
NIC*FTVWDVGGQDK	C62 C62 C62 C62	8.905068333	P84085 P84085 C9J1Z8 P84085	3
QTISNAC*GTIGLIHAIANNK	C95 C59 C95	8.741825	P15374 A0A087WTB8	3
C*DQDAQNPLSAGLQGAC*LMETVELLQAK	C240 C256 C245 C261 C124 C140 C242 C258 C240 C256 C240 C256 C245 C261 C124 C140 C242 C258 C240 C256 C240 C256 C245 C261 C124 C140 C242 C258 C240 C256 C240 C256 C245 C261 C124 C140 C242 C258 C240 C256 C240 C256 C245 C261 C242 C258 C240 C256	8.586473333	F8W1I6 Q13561 HOYI98 Q13561 Q13561 F8W1I6 Q13561 HOYI98 Q13561 Q13561 F8W1I6 Q13561 HOYI98 Q13561 Q13561 F8W1I6 Q13561 HOYI98 Q13561 Q13561 F8W1I6 Q13561 Q13561 Q13561	3
NC*GC*LGASPNLEQLQEENLK	C32 C34 C32 C34 C32 C34	8.437711667	P54136 P54136 P54136	3
VTEDENDEPIEPSDDGTVLLSTVTAQFPGAC*GLR	C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39	8.40515875	A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7 A0A087 A0A087WYYO G3V162 Q13148 B1AKP7	3
TIAEC*LADELINAAK	C193 C172 C172	8.385572857	M0R0R2 M0R0F0 P46782	3
KIPC*DVTEAEIISLGLPFGK	C40 C74 C71 C37 C40 C68 C40 C74 C71 C37 C40 C68 C40 C74 C71 C37 C40 C68 C40 C74 C71 C37 C40 C68	8.2399325	O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758 O95758	3
GGSC*SQAASNSAQGSDESLIACKA	C345 C345 C345 C305 C345 C345 C345 C351 C345 C345 C351 C345 C351 C351 C351 C345 C345 C351	8.203025	Q07000 Q9TNN7 Q07000 Q29960 Q29865 P30504 P04222 A0A140T912 Q29960 P30510 Q95604 P30508 A0A140T919 A0A140T9M0 A0A0G2JH50 Q29963 P30505 Q95604	3
AC*YLSINPQKDELTETEK	C222 C222	8.016995556	P61163 P61163	3
TDDYLDQPC*LETVNR	C202 C202 C202	7.7769675	P31150 P31150 P31150	3
LQLLDGEYEVAMQEMEEC*PISK	C302 C325 C302 C325 C302 C325	7.742803333	J3QQW9 Q15022 J3QQW9 Q15022 J3QQW9 Q15022	3
LYLDELEGGGNGPASC*K	C400 C408	7.616875	Q9HD26 Q9HD26	3
LGTDESC*FNMILATR	C363 C341 C363 C341 C363 C341	7.593825714	P20073 P20073 P20073 P20073 P20073 P20073	3
VNSDC*DSVLPNFFLLGGNIFDPLNLSLLDEEVS	C177	7.555384	Q7L2J0	3
LLAVNNVC*LEEVTHEEAVTALK	C378 C345 C345 C378 C378 C378 C327 C327 C345 C378 C378 C345 C345 C378 C378	7.505871667	Q12959 Q12959 Q12959 E7EQD7 Q12959 Q12959 Q12959 B4E2H8 A0A0C4DFT3 Q12959 Q12959 Q12959 Q12959 E7EQD7 Q12959 Q12959 Q12959 B4E2H8	3

	C378 C327 C327 C345 C378 C327 C327		A0A0C4DFT3 Q12959 Q12959 B4E2H8	
VFIMDNC*EELIPEYLNfir	C374 C496 C374 C496 C374 C496 C374 C496 C374 C496	7.440648261	P07900 P07900 P07900 P07900 P07900 P07900 P07900 P07900 P07900 P07900	3
FQSAAIGALQEASEAYLVGLFEDTNLC*AIHAK	C111 C111 C111 C111 C111 C111	7.36774	P84243 K7EK07 P84243 K7EK07 P84243 K7EK07	3
GDLENAFLNLVQC*IQNKPLYFADR	C280 C262 C280 C262 C280 C262 C280 C262 C280 C262	7.357202727	P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355 P07355	3
LELNYCVPMGVQTDGRIC*DGVQFGAGIR	C457	7.196971667	Q9Y512	3
IAPC*PSQDSLYSDDLSTSAQAGEGVQR	C169 C308 C169 C308 C169 C308	7.165073333	Q99704 Q99704 Q99704 Q99704 Q99704 Q99704	3
SLPSAVYC*IEDK	C674 C674 C674	7.162233333	O43290 O43290 O43290	3
GYWASLDASTQTTHELTPNNLIGC*IIGR	C293 C293	7.008731429	Q15365 Q15365	3
SQEATEAAPSC*VGDMADTPR	C230 C84 C229 C241 C248 C241 C57 C230 C84 C229 C241 C248	6.990324	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 K7EJL9 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	3
ISNASC*TTNCLAPLAK	C152	6.973238889	P04406	3
ITSC*IFQLLQEAGIK	C63 C63 C63 C63	6.775569	P22234 P22234 P22234 P22234	3
ACFC*IDNEALYDICFR	C201 C201 C201 C201 C201 C201 C201 C201 C201	6.722753158	Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7	3
GC*LELIKETGVPIAGR	C152 C208	6.696638333	P11586 F5H2F4	3
RVDDFEAGAAAGAAPGEEDLC*AAFNVIC*DNVVK	C98 C105 C98 C105 C98 C105 C98 C105	6.598073333	Q13158 Q13158 Q13158 Q13158	3
SC*NGPVLVGSPPGGVDIEEVAASNPELIFK	C162 C162 C162 C162	6.591415	Q96I99 Q96I99 Q96I99 Q96I99	3
GVLlyGPPGC*SK	C672 C672 C672 C672 C672 C672	6.575764	Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90 Q8NB90	3
VEQLFQVMNGILAQDSAC*SQR	C3781 C3781	6.546856	P78527 P78527	3
TYAIC*GAIR	C56 C56 C56 C56 C56 C56 C56 C56 C56	6.44586	Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220	3
AIVLFTSDAC*GLSDVAHVESLQEK	C193 C173 C326 C193 C173 C326	6.358575	P24468 P24468 P24468 P24468 P24468 P24468	3
AQDIEAGDGTTSVVIAGSLLDSC*TK	C120 C120 C120 C120 C120 C120 C90 C120 C90 C120 C90 C120 C90	6.355988889	P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991 P50991	3
PSYSSFTQGDWSWEGEVEDEEGC*DQVAR	C48 C48 C48 C48	6.338165	Q8N6S5 Q8N6S5 Q8N6S5 Q8N6S5	3
DIIEHLNTSGAPADTSDPLQQC*K	C475 C399 C475	6.333208333	P37198 P37198	3
MC*DFGISGYLVDSVAK	C212 C178 C207 C196 C140 C212 C178 C207	6.285108	P46734 P46734 P46734 P52564 P52564 P46734 P46734 P46734	3
LQDAFSSIGQSC*HLDLPQIAVVGQSAGK	C27 C27 C27 C27 C27 C27 C27 C27	6.1680075	P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570	3
AEPPQC*TSLAWSADGQTLFAGYTDNLVR	C286 C286 C286 C286 C286	6.145177059	P63244 P63244 P63244 P63244 P63244	3
LHDAIVEVTC*LLR	C470 C483 C483 C483 C470 C470 C470 C470	6.088260667	O00429 O00429 O00429 G8JLD5 O00429 O00429 O00429 O00429	3
GPFVEAEVDPVDLEC*PDAK	C1833 C1833 C1833 C1833 C1833 C1833	6.085495333	Q09666 Q09666 Q09666 Q09666 Q09666 Q09666	3

CFC*QVSGYLDDCTCDVETIDRFNNYR	C37	5.98203	Q96HE7	3
VWELGGC*ANK	C253 C225	5.920283333	P08240 P08240	3
IC*DQWDNLGALTQK	C480 C480 C480 C480 C480	5.916995714	P12814 P12814 P12814 P12814 P12814	3
VLSSSGSEAAVPSVC*FLVPPPNQEAQAVTR	C992 C878 C992	5.858355	Q15149 Q15149 Q15149	3
SSSSVTTSETQPC*TPSSSDYSDLQR	C334	5.838056667	P50552	3
GIFPVLK*KDPVQEAWAEDVDLR	C474 C474	5.797157857	P14618 P14618	3
SWC*PDCVQAEPPVVR	C43 C43 C43 C43 C43 C43 C43	5.762598889	Q9BRA2 Q9BRA2 I3L3M7 Q9BRA2 I3L0K2 Q9BRA2 Q9BRA2	3
SGDAAIVEMVPGKPMC*VESFSQYPLGR	C411	5.626472105	Q05639	3
YC*VRPNSGIIDPGSTVTVSVMQLQPFYDYPNEK	C60 C60 C60 C60 C60 C60 C60 C60	5.580871818	Q9P0L0 Q9P0L0 Q9P0L0 Q9P0L0 Q9P0L0 Q9P0L0 Q9P0L0 Q9P0L0	3
IGSSLYALGTQDSTDIC*K	C264 C276	5.513635714	Q9UNH7 A0A0A0MRI2	3
FSPLCQWLYLEAADIVESLGKPEC*EEFLPR	C433 C433	5.476888571	A0AVT1 A0AVT1	3
VPADTEVVC*APPTAYIDFAR	C42 C79 C42 C79 C42 C79	5.3917325	P60174 P60174 P60174 P60174 P60174 P60174	3
C*SEGSFLLTTFPRPVTVPEPMDQLDDEEGLPEK	C119 C208 C119 C208 C119 C208	5.3908375	Q15233 Q15233 Q15233 Q15233 Q15233 Q15233	3
ERESLNASIVDAINQAADC*WGIR	C121 C167 C121 C167	5.347577143	A0A087WYB4 Q9UJZ1 A0A087WYB4 Q9UJZ1	3
LEGDLTGPSVDVEVPDVELEC*PDAK	C2162 C2162 C2162	5.291849231	Q09666 Q09666 Q09666	3
IEAELQDIC*NDVLELLDKYLIPNATQPESK	C96 C94 C96 C94 C96 C94 C96 C94	5.287305	P31946 P31946 P31946 P31946 P31946 P31946 P31946 P31946	3
AATMSAVEAATC*R	C266 C278	5.2832	Q53H96 A0A0A0MQS1	3
AWSTGDC*DNGGDEWEQEIR	C54 C54 C54	5.258340909	Q9BRF8 Q9BRF8 Q9BRF8	3
VC*NFLASQVFPFSR	C214 C214 C214 C214 C205	5.197253333	Q99714 Q99714 Q99714 Q99714 Q99714	3
DLNC*VPEIADTLGAVAK	C22 C22 C22 C22	5.106365	O14744 O14744 O14744 O14744	3
AINC*ATSGVVGLVNCLR	C1448 C1448 C1448 C1448 C1448 C1448 C1448 C1448 C1448	5.103884091	P49327 P49327 P49327 P49327 P49327 P49327 P49327 P49327 P49327	3
NAFAC*FDEEATGTIQEDYLR	C109 C109 C109 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109	5.090431304	O14950 O14950 O14950 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950	3
IGTSGGIGLEPGTVVITEQAVDTC*FK	C162 C162 C162 C162 C162	5.075231429	Q16831 Q16831 Q16831 Q16831 Q16831	3
IDPENAEFLTALC*ELR	C428 C476	5.07391375	Q13325 Q13325	3
LIQVLIGDEPERGMENLLEVQVPEDVEQQLQQLD C*R	C368 C368 C368	5.0738775	Q9BTY7 Q9BTY7 Q9BTY7	3
MTVDESGLISC*SMDDTVR	C382	5.054200769	O75083	3
ICPVETLVEEAIQC*AEK	C225 C225 C225	5.04634	P30084 P30084 P30084	3
SGDAAIVDMVPGKPMC*VESFSQYPLGK	C409 C409	1000	A0A087WV01 A0A087WV01	2
GAEPETGSAVSAQC*QGPTR	C67 C90 C69 C67 C90 C69	1000	A0A087WTA5 Q9UI10 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10	2
SSSTGSSSSTGGGGQESQPSPLALLAATC*SR	C68 C61 C68 C61	515.64533	P08047 P08047 P08047 P08047	2
ADFVC*STVQKPDAAANYYYLIILK	C819 C782 C819	508.35097	Q9NQW6 Q9NQW6 Q9NQW6	2

VPFLVLEC*PNLK	C14 C14 C14 C14 C14 C14	506.78075	Q9NRPO Q9NRPO A0A087WUD3 Q9NRPO Q9NRPO A0A087WUD3	2
APPPSLTDC*IGTVDSR	C20 C20	505.8080775	Q9NZZ3 Q9NZZ3	2
MTEEEVEMLVAGHEDSNGC*INYEELVR	C183 C139 C138 C90	502.906045	F8W180 G8JLA2 P60660 F8VZU9	2
LISDAGYQGEITSVSTAC*QQLEVFSR	C186 C204 C195 C198 C186 C204 C195 C198 C186 C204 C195 C198	344.5860533	H0UI80 H0UI80 H0UI80	2
GRPGPEGEGSLESQPPPLQTQAC*PESSCLR	C79	338.11726	O94992	2
SGQAGYVPC*NILGEARPELAGAPFEQAGQK	C543 C559 C543 C559	259.2620275	Q9H6S3 Q9H6S3 Q9H6S3 Q9H6S3	2
FMC*AQLPNPVLDSISIIDTPGILSGEK	C152 C152 C138 C152 C152 C138	254.4043725	C9JC03 A0A024R571 Q9H4M9 C9JC03 A0A024R571 Q9H4M9	2
TPVKEQPQLTSTC*HAIASNSENLLGK	C772 C773 C773 C772	252.48795	A0A087WV66 P46013 P46013 A0A087WV66	2
VTPTEEHVEGPLSPVNTNGSPAQLNGGSAC*SSR	C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271	203.259464	H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599 H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599 H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599 H3BQS0 H3BUQ9 Q15599 H3BN50 Q15599 Q15599	2
THEAEIVEGENHTYC*IR	C2199 C2191 C2172	202.969118	P21333 P21333 Q60FE5	2
GVEVIYLTEPVDEYC*IQALPEFDGKR	C576 C576 C576	202.446644	P14625 P14625 P14625	2
SC*SPSPVSPQVQQAADTISDSVAVPASLLGMR	C96 C96 C96	176.6013533	Q9NQW6 Q9NQW6 Q9NQW6	2
LIC*CDILDVLDKHLIPAANTGESK	C75 C97	171.3213217	P62258 P62258	2
VNLQMVYDSPLC*R	C493 C533	170.3084133	Q9Y285 K7ER00	2
VHNQDPKDWPAQYC*EALADEENR	C283	169.6250933	Q96MG7	2
SASLDNGGC*ALTTFSVLEGEK	C34 C27 C92	149.12753	P35610 P35610 P35610	2
NEMNC*KEDQQLSLLAAMGNTQR	C684	145.5161643	P53618	2
AVFPEGPC*EEPLQLRK	C900 C900	127.196845	Q96P48 Q96P48	2
SLRLSC*TASGFTFGDYAMSWVR	C30 C41 C30 C41	106.17504	A0A087WU91 A0A0A0MS15 A0A087WU91 A0A0A0MS15	2
GLIAAIC*AGPTALLAHEIGFGSK	C106 C86 C106 C86	99.61596545	Q99497 K7ELW0 Q99497 K7ELW0	2
LEEATTIC*LLP	C839 C868 C519 C878 C845 C843 C839 C868 C519 C878 C845 C843 C839 C868 C519 C878 C845 C843	75.56100667	P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816 P51816	2
C*PVVGEFPC*QNDINLSQAPALPQPEVIQNMTE FKR	C966 C974 C966 C974	72.425284	P14735 P14735	2
EC*PSDECGAGVFMASHFDR	C121 C121	65.27144063	P62979 P62979	2
GTLTEAFPVLGGKAIIEFC*IAR	C733 C733 C733 C733	62.073975	P29144 Q5VZU9 P29144 Q5VZU9	2
IETSC*SLLEQTQPATPSLWK	C487 C405	36.4044	O60934 A0A0C4DG07	2
ALQFLQIDSC*R	C337 C330 C149 C361 C100 C254 C248 C330	36.39551	Q7L5Y1 Q7L5Y1 Q7L5Y1 Q7L5Y1 Q7L5Y1 J3QL81 Q7L5Y1 Q7L5Y1	2
LEEEQIILEDQNC*K	C988	34.92612667	P35579	2
LATFCHLTVLLAGQHGGVTKCNITC*SK	C36 C36	32.07608	P78423 P78423	2
CC*SGAIVLTK	C424 C350 C350 C424 C424	29.44312	P14618 B4DNK4 B4DNK4 P14618 P14618	2

LSTC*IDQVQTFGDILQLVIVELIYK	C212 C212	29.19166	P53618 P53618	2
AQQEQLLLQKQLQQQQPPSQC*TAPASSHER	C527 C527 C527 C527	27.1201475	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5	2
VASPLISSTC*DMVSAAYASTK	C39 C39 C39	21.9401225	O60664 O60664 O60664	2
TEGGGSEAPLC*PGPPAGEEPAISEAAPEAGAPTS ASGLNGHPTLSGGGDQR	C2243 C1098	21.781835	E7EVA0 P27816	2
LNLSGVNLPGLVQQGC*VSAK	C1045 C1097 C1045 C1097	21.667905	Q70E73 C9K0J5 Q70E73 C9K0J5	2
GPDWSIPILDFVEQKC*EVFDDEEEK	C37 C37 C37 C37 C37 C37 C37 C37	20.500025	B5MC35 B5MCA1 Q96G28 B5MD16 B5MC35 B5MCA1 Q96G28 B5MD16	2
QEPLGSDSEGVNC*LAYDEAIMAQQDR	C23 C23 C23 C23 C23 C23 C23 C23 C23	18.35570333	Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1	2
YLC*DEQKELQALYALQALVVTLEQPPNLLR	C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429 C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429	18.29427667	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637	2
QLC*EDWEVVPEPVAR	C45 C45	18.1121325	D6RFG8 P27707	2
SESELIDELSEDFDRSEC*K	C423 C381 C381 C464 C68 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104 C442 C96 C445 C368 C423 C381 C381 C464 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104 C442 C96 C445 C368	16.628195	P20810 E7E510 P20810 P20810 D6RC54 B7Z574 P20810 P20810 HOY7F0 HOYD33 HOY9H6 P20810 E9PCH5 AOA0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 AOA0A0MR45 P20810 E7EQ12 P20810 P20810 P20810 E7E510 P20810 P20810 B7Z574 P20810 P20810 HOY7F0 HOYD33 HOY9H6 P20810 E9PCH5 AOA0C4DGB5 P20810 E7EQA0 E7EVY3 E9PDE4 AOA0A0MR45 P20810 E7EQ12 P20810 P20810	2
PVDIOWALGC*MIEMATGNPYLPSDDLHLLKIVL K	C189 C189 C189 C189 C189 C189	15.91919	E7ET86 Q8IVW4 Q8IVW4 E7ET86 Q8IVW4 Q8IVW4	2
SGDAAQGAEGGTSQFQVGDVQVC*YDLER	C342 C342	14.934975	Q86YT6 Q86YT6	2
LAMDFGGAGAAQQGLTDC*QSGGVPTAVQNL APR	C494 C510	14.63057667	Q13310 Q13310	2
VIEQLGTPC*PEFMKK	C245 C245	14.44273	P45983 P45983	2
SVPC*DSNEANEMMPETPTGSDPQPAPK	C16	13.963025	Q9NS26	2
VTTGAPIPC*GADAVVQVEDTELIR	C419 C465 C452 C419 C465 C452	13.34954667	F5H039 F5H039	2
DILQSCQTSEEC*ELAR	C475 C274 C475 C274	13.123075	Q9UNW1 Q9UNW1 Q9UNW1 Q9UNW1	2
ILATGANVILTTGGIDDMC*LK	C296 C296 C296	12.86121	P17987 E7ERF2 P17987	2
SIDLPIQSSLC*R	C589 C563	12.710985	O95757 E9PDE8	2
LNGGLGTSMGC*K	C132 C123 C112 C123 C132 C112 C112 C123 C112 C123 C115	12.635275	E7EUC7 Q16851 Q16851 AOA087WYS1 E7EUC7 C9JVG3 C9JNZ1 Q16851 Q16851 AOA087WYS1 C9JQU9	2
IPC*ESPPELVDTTASTKR	C2705 C2706 C2706 C2705	11.97726	AOA087WV66 P46013 P46013 AOA087WV66	2
KVDC*PGPGSGAEGSGPGSVVPGSSGVGT PR	C394 C1022 C394 C1022	11.92438	AOA0G2JRY5 O00268 AOA0G2JRY5 O00268	2
IAAYLQSDQFC*K	C208	11.777135	P21266	2

ETC*STLAESPR	C838 C838	11.13085	Q6P2E9 Q6P2E9	2
HLSSC*AAPAPLTAER	C141	11.001035	Q6IB50	2
TTC*SSGSALGPAGAAQPSASPLEGLDLSYPR	C12 C12 C12 C12	10.665564	F8WDZ3 Q96FZ5 Q96FZ5 Q96FZ5	2
DSGLFC*VPLTALLEQDQR	C323 C278 C323 C278	10.632925	Q8N392 Q8N392 Q8N392 Q8N392	2
RNAEFLTC*NIPTSNASNMVTEK	C435 C97 C392	10.60895667	P55265 P55265 P55265	2
SSGC*DVNLPGVNVK	C5502 C5502	10.493842	Q09666 Q09666	2
STDTSC*QMAGLR	C27 C27 C27 C27	10.42439	Q9HBM1 C9JW94 Q9HBM1 C9JW94	2
DGTVLC*ELINALYPEGQAPVKK	C63 C84 C63 C63	10.370025	P37802 P37802	2
ASVDAPPQVNVVFC*NTSMEASPK	C297 C274 C280 C274 C315 C297 C274 C280 C274 C315	10.01727667	Q8IWC1 A0A0A0MRP0 Q8IWC1 Q8IWC1 Q8IWC1 Q8IWC1 A0A0A0MRP0 Q8IWC1 Q8IWC1 Q8IWC1	2
GQDHC*GIESEVVAGIPR	C319	9.96922	P07858	2
LKDEDFPSSASTSSC*STAATPGPVGLALPYAIPAR	C447 C450 C456 C59 C401 C447 C450 C456 C59 C401	9.88084	Q86UK7 Q86UK7 Q86UK7 Q86UK7 H3BQQ2 Q86UK7 Q86UK7 Q86UK7 Q86UK7 H3BQQ2	2
LAALALASSESSSTPEEC*EEMSEKPK	C472 C472	9.873673333	O00567 O00567	2
DIC*NDVLSLLEK	C17 C94 C17 C94	9.78198	B0AZS6 P63104 B0AZS6 P63104	2
STGVVNIPAAEC*LDEYEDDEAGQKER	C119 C173 C119 C173 C119 C173	9.642711	H0YI16 Q96IZ0 H0YI16 Q96IZ0 H0YI16 Q96IZ0	2
NC*PPSPLPLISK	C503 C480 C486 C480 C521 C503 C480 C486 C480 C521	9.63165	Q8IWC1 A0A0A0MRP0 Q8IWC1 Q8IWC1 Q8IWC1 Q8IWC1 A0A0A0MRP0 Q8IWC1 Q8IWC1 Q8IWC1	2
LLLC*GGAPLSATTQR	C450	9.582763333	O95573	2
ASATGMIIMDGVVEPEENVLPGASSLGGPFGC*LNNAR	C289 C289	9.39835	Q92947 Q92947	2
YFASRMFC*LR	C240 C240	9.393825	C9JZ99 C9JZ99	2
LGYAGNTEPQFIIPSC*IAIK	C34 C34	9.383545	P61158 P61158	2
AQNTWGC*GNSLR	C410 C423 C522 C148 C522 C522 C441 C423 C410 C522 C522 C148 C522 C522	9.330606667	P02545 P02545 P02545 A0A0C4DGC5 P02545 P02545 Q5TCI8 P02545 P02545 P02545 P02545 A0A0C4DGC5 P02545 P02545	2
DSSSLSSC*TSGILEER	C243 C313 C243 C313	9.098945	Q9H3Q1 Q9H3Q1 Q9H3Q1 Q9H3Q1	2
TSESLC*QNNMVILK	C164 C164	8.961605	O14980 O14980	2
C*DENILWLDYK	C152 C152 C78 C152 C152	8.932856667	P14618 P14618 B4DNK4 P14618 H3BTN5	2
ELQEGTYVMVAGPSFETVAEC*R	C206 C206	8.608113333	P00491 P00491	2
SGETEDTFIADLVVGLC*TGQIK	C296 C389 C389 C361 C389 C346	8.4815	P06733 P06733 P06733 P13929 P13929 P13929	2
LICC*DILDVLDK	C76 C98	8.445694	P62258 P62258	2
KGTDIMYGTGLDC*WR	C257	8.444704	P05141	2
C*SVLAAANSVFGR	C482 C482	8.299876667	P33992 P33992	2
EKVETELQGV*DTVLGLLDShLIK	C96	8.127543333	P31947	2
KNEPPLTC*PYSLK	C295 C295 C295	8.1063175	Q9UGP8 Q9UGP8 Q9UGP8	2
VC*ENIPIVLCGNK	C129 C130 C112 C108	8.101221818	B5MDF5 J3KQE5 P62826 F5H018	2

VLSSC*PQAGEATLLAPSTEAGGGLTCASAPQGT R	C88 C86 C88 C86	8.086473333	O15446 O15446 O15446 O15446	2
KNPFGVLPVLENSQGLIYESAITC*EYLDEA	C62 C90 C90	8.065525	P78417 P78417 P78417	2
VEFEELC*ADLFR	C352 C352 C352 C352 C265 C352	8.022955	K7EQK2 A0A087WWI4 E9PJ21 A0A087 Q9Y4L1 Q9Y4L1	2
AQLSGLQLQPC*LYK	C451 C451 C135	8.01177	O43159 O43159 E9PPP6	2
AAQGPAPAVPPNTDVMAC*TQTALLQK	C152 C115 C146 C152 C115 C146	7.598985	O60232 G3V1B8 HOYEB6 O60232 G3V1B8 HOYEB6	2
VTPETPCENEFAEGSALLPGSEAGVSVQQGAASLP LGGC*R	C124 C124	7.50828	Q8IYL3 Q8IYL3	2
DTEGGAAEINC*NGVIEVINYQNSNETLR	C340 C527 C356 C372 C527 C340 C527 C356 C372 C527 C340 C527 C356 C372 C527	7.472206	Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363 Q96SB4 Q96SB4 Q96SB4 H3BLV9 Q5R363	2
LPSSSTWGQQSNTTAC*QSQATLSLAEIQK	C959 C932 C960 C938 C932 C959 C932 C960 C938 C932	7.43077	Q6Y7W6 Q6Y7W6 I1E4Y6 Q6Y7W6 Q6Y7W6 Q6Y7W6 Q6Y7W6 I1E4Y6 Q6Y7W6 Q6Y7W6	2
GSAFAIGSDGLC*CQSR	C110 C110	7.389133333	Q92499 Q92499	2
NENC*TLQFEAAWALTNIASGTSQQT	C139 C139	7.2926	O60684 O60684	2
DVPLADPGLDNDVGVGGSGGC*LEER	C62 C62	7.191793333	Q9NPA3 Q9NPA3	2
VHSPSGALEEC*YVTEIDQDKYAVR	C2378 C2370 C2351 C2378 C2370 C2351	7.18745	P21333 P21333 Q60FE5 P21333 P21333 Q60FE5	2
ELFQTPC*TDNPTTDEK	C1842 C1843	7.10296	A0A087WV66 P46013	2
SDTATGGESAGHATSSQEPSGC*SDQRPAEDLNIR	C186 C186	6.992286667	Q92575 Q92575	2
ESTGNMVTGQTVK*K	C596 C596	6.95923	Q15021 Q15021	2
QQSACIGPPNAC*LDQLQNWFTIVAESLQQVR	C255 C257 C255	6.8819	P42224 J3KPM9 P42224	2
NEDEEGYVPTSVEVC*LDK	C604 C543 C556 C609 C543 C604 C580 C604 C543 C556 C609 C543 C604 C580	6.87472	Q96RU3 Q96RU3 HOY7W6 Q96RU3 B7ZL14 Q96RU3 Q96RU3 Q96RU3 Q96RU3 HOY7W6 Q96RU3 B7ZL14 Q96RU3 Q96RU3	2
YNFFTGC*PK	C364 C364	6.67332	Q99832 Q99832	2
FIC*EQDHQNFLR	C658 C614 C660 C658 C614	6.66773	Q92598 Q92598 Q92598 Q92598 Q92598	2
DEQAFPALSSSVNQSASQSSNPC*VQR	C489	6.662045	Q01804	2
FMADC*PHTIGVEFGTR	C40 C40 C40 C40	6.643035714	P61106 P61106	2
LHMTIFSQSVSPC*GK	C35 C35	6.607153333	Q86W42 Q86W42	2
SVPC*ESNEANEANEANK	C16 C16	6.593682	Q9NS25 Q9NS25	2
TDDYLDQPC*YETINR	C202	6.563881429	P50395	2
LAEQC*GGLQGLIFRSFGGTGSFSTLLMER	C136 C96	6.538514	A6NHL2 A6NHL2	2
FSIYNLNEALNQGETVDLDMADLC*SIEQELSSI GSGNSKR	C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 C94	6.535265	Q70E73 Q70E73 Q70E73 Q70E73 C9K0J5 C9J164 Q70E73 Q70E73 Q70E73 Q70E73 Q70E73	2
APPPVFYNKPEIDITC*WDADVPPEEEGFEGGD	C678 C634 C632	6.5139	Q16643 Q16643 Q16643	2
MNTLLANGEVPLFEGDEYATLMTQC*K	C3033 C3033 C3033	6.461424	Q14204 Q14204 Q14204	2
ETAFAITSAGVTHSVARSC*SEGSIESCTCDYR	C143 C143 C143 C143	6.434185	A0A087 P04628 A0A087 P04628	2
QAFTDVATGSLGQLGAAC*GMAYTGK	C133 C133 C133	6.3888175	P29401 P29401 P29401	2
VC*DEPHLLVK	C255	6.37205	P35250	2

RFSFCC*SPEPEAEAEAAAGPGPCER	C27 C27 C27 C27	6.37032125	E3W990 Q13501 E7EMC7 Q13501	2
SDPLC*VLLQDVGGSWAEALGR	C30 C35 C30 C35	6.19553	Q99829 B0QZ18 Q99829 B0QZ18	2
PAGALVALVAPLC*WK	C284 C284	6.07869	Q2T9J0 Q2T9J0	2
SSC*TTVNGYGGK	C218	6.01125	Q53EPO	2
MSESPTPC*SGSSFEETEALVNTAAK	C2573 C2528 C2577 C2573 C651 C277 C2528 C2573 C2577 C719 C651 C2573 C273 C663 C663 C308	5.9993725	O95359 E7EMZ9 E9PBC6 O95359 O95359 E7EMZ9 O95359 E9PBC6 O95359 O95359 O95359 O95359 D6RAA5 HOY911	2
YC*PNSVLVIIDVKPK	C116 C116	5.985325	P51665 P51665	2
IGLIQFC*LSAPK	C252 C252	5.914571667	P50991 P50991	2
AFPQLGGRPGPEGEGLSQPPPLQTQACPESSC* LR	C84 C84	5.91134	O94992 O94992	2
DFGYGVEEEEEEAAAAGGGVAGAGGGC*GPGG ADSSKPR	C52 C52 C52	5.904383333	Q9HB90 Q9HB90 Q9HB90	2
HAELIASTFVDQC*K	C283 C219	5.8774525	Q9UBB4 Q9UBB4	2
TAQAVFPAIAQEIC*QEEVSRPAGK	C251 C251	5.8578625	Q99741 Q99741	2
DIKWDFTPC*K	C138	5.85512	P38606	2
NALANPLYC*PDYR	C192 C192 C192 C192 C192 C192 C192 C192 C192	5.776546	H3BSJ9 P22695 H3BRG4 H3BSJ9 P22695 H3BRG4 H3BSJ9 P22695 H3BRG4	2
LHIVQVVC*K	C191 C191	5.759026667	O00299 O00299	2
EQHGVAASC*LEDLR	C38 C38 C38 C38 C38	5.74209	O00273 O00273 K7ERT1 O00273 O00273	2
VCLYLTS*VNVYPEPENSALLR	C236 C236 C236	5.690816	Q13200 Q13200 Q13200	2
IDPLAPLDKVC*LLGCGISTGYGAAVNTAK	C170 C170	5.687533333	P11766 P11766	2
YRPENTPEPVSTSVSHYGAEPVSPC*PSSSAK	C42 C47 C42 C47	5.585625	P07947 J3QRU1 P07947 J3QRU1	2
TYITDPVSAPC*APPLQPK	C342 C364	5.5745475	A0A087WZF1 Q93052	2
GLAAALLC*QNK	C645 C645	5.56131	O43290 O43290	2
TATC*HSSSPPIIDAASAEPYGF	C1814	5.518603333	P46821	2
EAQAAMEGLNGQDLMGQPISVDWC*FVR	C149 C148 C149 C148	5.518426667	Q9Y5S9 Q9Y5S9 Q9Y5S9 Q9Y5S9	2
IANALSSEPAC*LAIEEDKAR	C3347 C3347 C3347	5.490147143	P78527 P78527 P78527	2
SDLYEVIQSTLDGLLC*TSLPVWLENHTALTVMMA SK	C322 C322 C322	5.463241667	P22102 P22102 P22102	2
NTMEALPAC*LLR	C79 C79 C79 C79	5.449745	P04183 K7ERV3 P04183 K7ERV3	2
DSHEDGDYEVDDINGPEILAC*K	C437 C437 C437 C437 C437 C437	5.43551	Q8TD16 Q8TD16 Q8TD16 Q8TD16 Q8TD16 Q8TD16	2
VC*NYGLTFTQK	C66 C65	5.386921429	Q9Y277 Q9Y277	2
AGSNMLLIGVHGPTTPC*EEVSMK	C2491 C2587 C2515 C2532 C2545 C2556	5.375903333	O75369 O75369 O75369 O75369 O75369 O75369	2
SC*LSPKPPQQEQQQEQDEVLVEGPTLPETPR	C232 C232 C232	5.324014	Q8NCF5 Q8NCF5 Q8NCF5	2
EGLLLWC*QR	C154 C154 C154 C154 C173	5.19568	P12814 P12814 P12814 P12814 O43707	2
AGLC*PDEDDMEGDSFFDDPIPKPEK	C224 C244 C224 C197 C244	5.136345	O95684 O95684 O95684 A0A087WV25 O95684	2
TPSYSISSTLNPQAPEFILGC*TASK	C142 C98 C94 C142 C98 C94	5.089325	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	2
IADISQVYTQNAEMRPLGCC*MILIGIDEEQGPQV YK	C118 C137 C118 C137 C58	5.045576667	P60900 P60900 P60900 P60900 P60900	2

ANSSVSVNC*K	C596 C596	5.022255	O60502 O60502	2
NAFATPTISLQESC*DYLDR	C336 C336	4.989715	Q7KZ85 Q7KZ85	2
DSGAASEQATAAPNPC*SSSSR	C671 C696 C583	4.953025	Q9BU23 Q9BU23 Q9BU23	2
AGAIAPC*EVTVPAQNTGLGPEK	C119 C119 C119 C119 C119 C119	4.95205375	F8VU65 P05388 F8VU65 P05388 P05388 P05388	3
ANC*IDSTASAEAVFASEVKK	C268 C244 C183 C206 C268 C183 C206	4.943787143	P22087 M0R2Q4 M0R299 P22087 M0R299	3
LSSC*DSFTSTINELNHCLSLR	C92 C92 C92 C92	4.935956667	P07814 P07814 P07814 P07814	3
IEKELEAVC*QDVLSLLDNYLIK	C97 C97 C97 C97 C97	4.909691538	P61981 P61981 P61981 P61981 P61981	3
FFACAPNYSYAALCEC*LR	C513 C513	4.899945	Q96RS6 Q96RS6	2
ALVLELCC*NDESGEDVEVPYVR	C1040 C1040 C1000	4.899515	P22314 P22314 P22314	2
SQSPAASDC*SSSSSASLPSSGR	C121 C179 C121 C179 C121 C179 C121 C179	4.862557143	C9JFK9 O95817 C9JFK9 O95817 C9JFK9 O95817 C9JFK9 O95817	3
SVVC*QESDLPDELLYGR	C187 C187	4.85927875	Q9NS86 Q9NS86	3
AC*FCIDNEALYDICFR	C199 C199 C199 C199 C199 C199	4.855413077	Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7 Q9H4B7	3
IAQLFSISPC*QISQIYK	C453 C375 C402 C402 C453 C355 C453 C375 C402 C402 C453 C355	4.83378	Q12800 Q12800 Q12800 Q12800 F8VWLO Q12800 Q12800 Q12800 Q12800 F8VWLO	2
AVLLASDAQEC*TLEEVVER	C332 C332	4.827486429	Q27J81 Q27J81	3
GMPETTQPKQC*GQVAAAAAQPPASHGPER	C93 C151	4.755944	C9JFK9 O95817	2
VTEAPC*YGPAPSTEASGQTGPQEPTSARA	C523	4.751236	P40222	3
AVSPAIPSAPLYEEITYSGISDGLSQASC*PLAAIDHILDSSR	C428 C428 C406 C406 C467 C428 C428 C406 C406 C467	4.74945	O60291 O60291 O60291 O60291 K7EPJ5 O60291 O60291 O60291 O60291 K7EPJ5	2
SSGEIVYC*GQVFEK	C64 C35 C35	4.74907	Q02543 M0R3D6 M0R1A7	2
QVQSLTC*EVDALKGTNESLER	C328 C328 C328 C328	4.724080179	P08670 P08670 P08670 P08670	3
FFACAPNYSYAALC*ECLRR	C511	4.720878	Q96RS6	3
GCITIIGGGDTATC*C*AK	C351 C339 C379 C367 C351 C339 C379 C367	4.713296667	P00558 P00558 P00558 P00558	2
TDETYCIDNEALYDIC*FR	C174 C174 C211 C211 C193 C193 C107 C107 C211 C211 C558 C211 C139 C558 C211 C139 C141 C141 C211 C211 C211 C211 C125 C125 C193 C211 C141 C211 C211 C211 C558 C193 C211 C141 C211 C211 C211 C558 C211	4.71146381	K7ESM5 K7ESM5 Q9BUF5 Q9BUF5 Q5JP53 Q5JP53 M0R2D3 M0R2D3 P68371 P68371 A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509 Q13509 M0QYM7 M0QYM7 Q9BVA1 Q9BVA1 P04350 P04350 M0R042 M0R042 Q5JP53 P68371 M0QYM7 P04350 Q9BUF5 Q9BVA1 A0A0B4J269 Q5JP53 P68371 M0QYM7 Q9BUF5 P04350 Q9BVA1 A0A0B4J269 Q13509	3

TDC*SPIQFESAWALTNIASGTSEQTK	C133 C133 C133 C133 C133	4.709223333	P52292 P52292 P52292 P52292 P52292	3
IDPTVTMMQVEEKPDVTVSYDVGGC*K	C180 C180	4.696576	P35998 P35998	3
LDLVGSSQPIKESNSLC*PAGIR	C1362 C1362	4.694365	Q9UPU5 Q9UPU5	2
MHSVGC*GSDVHYWEYGR	C24 C45	4.67863	H0YLA4 Q00796	2
SC*SPLAFSAFGDLTIK	C231 C191 C231 C191	4.6684225	Q96EY5 Q96EY5 Q96EY5 Q96EY5	2
LNEDMAC*SVAGITSDANVLTNELR	C74 C74 C74 C74 C74 C74	4.647002	P25789 H0YMZ1 H0YL69 P25789 H0YMZ1 H0YL69	2
EKIEAELQDIC*NDVLELLDK	C96 C94 C96 C94	4.64607	P31946 P31946 P31946 P31946	2
C*AGNEDIITLR	C81 C81	4.6440625	P12004 P12004	2
YLDEVLEANC*CDSAVDGTNGTSSPEPGAVVLV GGLSPPVHEATQPEPTER	C295 C295 C153 C295 C64 C153 C295 C113 C295 C295	4.63847	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVV5 Q9Y2D5 Q9Y2D5	3
NLSIDLVLPSLC*EDLLSSVDQPLK	C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 C36 C65 C36 C24 C36 C65 C36 C24 C62 C36 C65 C36 C24 C62	4.631028571	P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 P47756 B1AK88 P47756 B1AK87 B1AK85 P47756 B1AK88 P47756 B1AK87 B1AK85	3
GSDC*GIVNVNIPTSGAEIGGAFGGEK	C478 C450 C478 C441 C450 C414 C414	4.623744	P49419 P49419 P49419 A0A140T9V3 P49419 F8VS02 P49419	2
DC*NGDTPNLSFYR	C87 C87 C35 C87 C87 C35	4.60416	Q9NZT2 Q9NZT2 A0A0A0MRN5 Q9NZT2 Q9NZT2 A0A0A0MRN5	2
YLAEVAC*GDDR	C134 C134 C134 C134 C134	4.596220769	P27348 P27348 P27348 P27348 P27348	3
AVGYSC*MPSNKDEGLVVLVFNK	C180 C132	4.595505	Q7Z3B4 Q7Z3B4	2
GAVEKGEELSC*EER	C38	4.586308333	P31947	3
SLREALEAESAWC*YLYGTGSVAGVYLPGSR	C3821	4.579816875	Q15149	3
LTSSVSC*ALDEAAAALTR	C210 C95 C97 C210 C210 C181 C181 C181 C181	4.577366667	O75179 H0YM23 O75179 O75179 O75179 Q8IWZ3 Q8IWZ3 E9PDP5 Q8IWZ3	2
LVFLAC*CVAPT NPR	C301	4.577026667	Q14566	3
SC*SGVEFSTSGSSNTDTGK	C47 C47 C47 C47 C47 C47 C47	4.566463333	P45880 P45880 A0A0A0MR02 P45880 A0A0A0MR02 P45880 P45880	3
HLQTVQQNTIYTC*ATPLQEALAQAFWIDIK	C313 C149 C279	4.557845	Q6YP21 A0A0A0MRN6 Q6YP21	3
KPTDGASSNC*VTDISHLVR	C369 C710 C708 C369 C710 C708	4.546355	P49321 P49321 P49321 P49321 P49321 P49321	3
EDSEELGLPDVNP MC*QRPR	C1239 C1239 C1239	4.537445	Q52LW3 Q52LW3 Q52LW3	2
LNISFPATGC*QK	C12 C12 C12 C12	4.532031667	P62753 P62753 P62753 P62753	3
LLSALC*PEEPPVHSSAQIVSK	C334 C334 C334 C334 C334 C334 C334 C334 C334	4.529176	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	2
AAIGC*GIVESILNWVK	C441 C405 C431 C486 C441 C405 C431 C486 C441 C405 C431 C486 C441 C405 C431 C486	4.495815	P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388 P11388	2
DLQPFPTC*QALVYR	C404 C404	4.486618333	Q14137 Q14137	3
YLGIPGDKEYCISSDDLFLSPYC*PGK	C239 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 C239	4.4802975	A0A087WSW9 E2QRB9 Q16881 F8W809 Q16881 A0A087WSY9 Q16881 Q16881 Q16881 Q16881 Q16881 A0A087WSW9 E2QRB9	2

	C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 C239 C189 C288 C189 C339 C339 C241 C189 C304 C233		Q16881 F8W809 Q16881 A0A087WSY9 Q16881 Q16881 Q16881 Q16881 Q16881 A0A087WSW9 E9PIR7 Q16881 F8W809 Q16881 A0A087WSY9 Q16881 Q16881 Q16881 Q16881	
LVAFC*PFASSQVALENANAVSEGVVHEDLR	C52 C52 C52	4.47635	O00567 O00567 O00567	3
TC*ETGEPMEAESGDTSEGAQVYLPGR	C11 C11	4.475887778	Q9BQ67 Q9BQ67	3
VVVAENFDEIVNNENKDVLFYAPWC*GHCK	C406 C406 C406 C406	4.46183697	P30101 P30101 P30101 P30101	3
MTGESEC*LNPSTQSR	C1181 C1212 C1181 C1212 C1181 C1212	4.457275556	Q9H2G2 Q9H2G2 Q9H2G2 Q9H2G2 Q9H2G2 Q9H2G2	3
AHTVLAASC*AR	C104	4.425375	Q8WUY1	2
AVLEALGSC*LNNK	C68 C68 C68 C68 C68 C68 C68 C68 C68	4.40216	P34896 P34896 J3KRK5 J3KRZ5 P34896 P34896 P34896 P34896 P34896	2
GYDSAGVGFDDGNDKWEANAC*K	C55 C55 C55 C55	4.401371429	Q06210 Q06210 Q06210 Q06210	3
YFAGNLASGGAAGATSLC*FVYPLDFAR	C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129	4.383587778	P05141 P05141 P05141 P12236 P12236 P12236 P12235 P12235 P12235 P12235 P12235 P12235 P12236 P12236 P12236 P05141 P05141 P05141	2
VIGIEC*SSISDYAVK	C101 C101 C101 C91 C73 C101 C91 C73 C101 C95	4.371602632	Q99873 Q99873 Q99873 Q99873 E9PKG1 Q99873 Q99873 E9PKG1 Q99873 Q99873	3
RVETNQDWSLMC*PNECPGLDEVWGEEFEK	C352 C130	4.35544	P23921 E9PL69	3
VTDDLVC*LVIYK	C48	4.354787	P49458	2
TAFQEALDAAGDKLVVDFSATWC*GPCK	C32 C32 C32 C32 C32	4.340093889	P10599 P10599 P10599 P10599 P10599	3
VWNLANC*K	C182 C182 C182 C182	4.328298571	P63244 P63244 P63244 P63244	3
GLYGIKDDVFLSVPC*ILGQNGISDLVK	C293 C322 C293 C322 C293 C322 C293 C322 C293 C322 C293 C322	4.327950909	P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338 P00338	3
GTEAGQVGEPIPTGEAGPSC*SSASDK	C241	4.3236025	O15355	2
DVNLASC*AADGSVK	C299 C298 C299 C298	4.31637	O43172 O43172 O43172 O43172	2
IC*LAEFLTADTILNTLQNISEGLVVYPK	C340 C340 C340 C340	4.289970833	P30566 P30566 P30566 P30566 Q8TDD1 Q8TDD1 Q8TDD1 Q8TDD1	3
LGPRPLPTFPTSEC*TSDEVDPDR	C73 C73 C73 C73	4.287044286	Q8TDD1 Q8TDD1 Q8TDD1 Q8TDD1	3
ECPSDEC*GAGVFMASHFDR	C126	4.282016154	P62979	2
NAEDC*LYELPENIR	C145 C70 C145 C70 C145 C70	4.261648571	Q9NZ63 A0A087 Q9NZ63 A0A087 Q9NZ63 A0A087	3
TC*LPGFPGAPCAIK	C1817 C1886 C1931 C1930	4.260014	P51610 P51610 A6NEM2 P51610	2
TASLELGEDDDEQEDDDIEYFC*QAVGEAPSEDLF PEAK	C338 C391 C391 C391 C391 C391 C338 C391 C391 C391 C391 C391	4.259123	A8MV53 Q9NQ55 Q9NQ55 Q9NQ55 A0A0B4J1V8 A0A0A6YYI3 A8MV53 Q9NQ55 Q9NQ55 Q9NQ55 A0A0B4J1V8 A0A0A6YYI3	3
SYC*NDQSTGDIK	C106 C106 C106	4.2584275	P00492 P00492 P00492	3
GMYGIENEVFLSLPC*ILNAR	C294 C294	4.25817	P07195 P07195	3
GYDFC*QVLQWFAER	C175 C175 C175 C175 C175	4.246493333	Q9H223 Q9H223 A0A087WUA5 Q9H223 A0A087WUA5	2

YNLSPSIFFC*ATPPDDGNLCR	C99 C120 C99 C120	4.2271925	H0YLA4 Q00796 H0YLA4 Q00796	2
TQEDEEEISTSPGVSEFVSDAFDAC*NLNQEDLRK	C283 C283 C283	4.203693333	Q96A49 Q96A49 Q96A49	2
APPC*EYKDWLTK	C3837 C3837	4.201206667	P78527 P78527	2
LAVPASLDVC*DNWLRPEPPGQEAR	C676 C676	4.19709	Q8IY33 Q8IY33	3
YAIC*SALAASALPALVMSK	C125 C125 C125 C125 C125 C125 C125 C125	4.180166842	P36578 P36578 P36578 P36578 P36578 P36578 P36578 P36578	3
TC*DISFSDPDDLNFK	C47 C47 C47	4.179362	P61081 P61081 P61081	3
LLQPDPFQVPC*ASQLYPR	C265 C201 C258 C265 C201 C258 C265 C201 C258	4.16989	Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0 Q9UJW0	2
TVEIC*PFSFDSR	C536 C572 C536 C572 C536 C572	4.15799	Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0	2
SEETNTEIVEC*ILK	C902 C903 C902 C903 C903 C902	4.1446375	A0A087WV66 P46013 A0A087WV66 P46013 P46013 A0A087WV66	3
VNC*SQFLGLCALPGCK	C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 C39	4.12408	H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667 H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667 H7C0S3 G3V1K6 A0A087WWK3 G3V2J7 F5H232 Q16667	2
VPAFEGDDGFC*VFESNAIAYYSNEELR	C118 C68 C118 C68 C118 C68 C118 C68 C118 C68	4.103625	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	3
QGFWEETFELQQQEC*K	C259 C259	4.0898975	Q06124 Q06124	2
LPSGLGC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374 C374	4.079755714	P22234 P22234	3
SAC*SLESNLEGLAGVLEADLPNYK	C44 C44 C44 C44 C44	4.070802857	Q09161 Q09161 Q09161 Q09161 Q09161	3
LSEAAC*EDEDSEAGLGLFLDGLSTENPHGAR	C238	4.069531667	O95801	3
VIFLQGGGC*GQFSAVPLNLIGLK	C80	4.063828	Q9Y617	2
AC*PRPEGLNFQDLK	C219 C227 C307 C219 C227 C307	4.06316	P15927 P15927 P15927 P15927 P15927 P15927	2
HYLDQLNHILGILGSPSQEDLNC*IINLK	C254 C254	4.038025	P28482 P28482	2
RPLNPLASGGTSEENTFYSWLEGLC*VEK	C241 C241 C241	4.022321429	Q96HE7 Q96HE7 Q96HE7	3
LSEEAEC*PNPSTPSK	C947	4.0146375	O94804	2
SRPNASGGAAC*SGPPEPAVFCEPVVK	C108	3.9964	Q6L8Q7	2
IC*DQWDALGSLTHSR	C499 C499	3.992641176	O43707 O43707	3
ALVLELC*CNDESGEDVEVPYVR	C1039 C1039 C999	3.98934	P22314 P22314 P22314	2
IPIFSAAGLPHNEIAAQIC*R	C207 C207	3.98767	P21281 P21281	2
LSGQGYC*FSASLPLLLAAAIEALNIMEENPGIFA VLK	C336	3.97523	O15269	2
PC*GEDWLSHPLGIVQGFFAQNGVNPDWEK	C3 C3 C3 C3 C3 C3 C3	3.972804	Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3	3
NC*IVLIDSTPYR	C100 C100 C100	3.964534167	P62241 P62241 P62241	3
AIHTAPVATMAFDPTSTLLATGGC*DGAVR	C129 C37 C129 C37	3.963856154	Q12788 J3KNP2 Q12788 J3KNP2	3
VIVVGNPANTNC*LTASK	C155 C155 C137 C13 C48 C155 C137	3.961085	P40925 C9JF79 P40925 B9A041 P40925 P40925 P40925	2
SC*GPASQSTLGLK	C115 C254 C255 C240 C255 C241 C232 C256	3.9447725	H0YMD2	2
EQVPSLGSNVAC*GLAYTDYHK	C568 C568 C568	3.944115714	A1L0T0 A1L0T0 A1L0T0	3

FLEQQTLC*NNQVNDLTTALK	C218 C296 C218 C296	3.9374575	V9GY01 Q9Y448 V9GY01 Q9Y448	2
ENSTLNC*ASFTAGIVEAVLTHSGFPAK	C139 C139	3.926282727	Q8IURO Q8IURO	3
ELEASEELDTIC*PK	C229 C229	3.921038889	O76003 O76003	3
TPQPGSPSPNTPC*LPEAAVSQPGSAVASDWR	C644 C644	3.91453	Q9Y4R8 Q9Y4R8	2
HPSIIFIDELDALC*PK	C459	3.909003333	Q8NB90	3
IQAHESESGQLVGVDLNTGEPMVAAEVGVWDNY C*VK	C499 C499	3.9067625	P40227 P40227	2
ISFC*LDIHNMSVK	C483	3.904358571	O43242	3
LGTDKC*DNSSMSLQMGYTGANQSQGVFLG R	C229	3.901902	B4DDF4	2
RANNNAAVAP TTC*PLQPVTDPFAFSR	C46 C46 C46 C46	3.90072	J3KNL6 F1T0I1 J3KNL6 F1T0I1	2
ASGDYDND C*TNPITPLCTQPDQVIK	C342 C333 C260 C342 C333 C260	3.892455	Q8TAF3 Q8TAF3 Q8TAF3 Q8TAF3 Q8TAF3 Q8TAF3	2
GILLYPPGC*GK	C259 C264 C259 C264	3.88103	I3L0N3 P46459 I3L0N3 P46459	2
LVPASQC*GSLIGK	C109 C109 C109 C109 C109 C109	3.87785	Q15366 Q15366 Q15366 Q15366 Q15366 Q15366	2
VQTDPPSPVIC*DLYPNGVFPK	C98 C23 C121 C85 C120 C121 C97 C149 C98 C23 C121 C85 C120 C121 C97	3.87337	P50579 G3V1U3 F8VRR3 F8VQZ7 P50579 F8VY03 F8VSC4 P50579 G3V1U3 F8VRR3 F8VQZ7 P50579 F8VY03	2
GPC*IIYNEDNGI IK	C208 C208	3.869786667	P36578 P36578	3
VRPSTGNSASTPQSQ C*LPSEIEVK	C131 C131 C131	3.865723333	P01769	2
EVC*PVL DQFLCHVAK	C22 C22	3.858327143	Q9NY27 Q9NY27	3
DC*GGAAQLAGPAAEADPLGR	C8 C8 C8 C8 C8 C8 C8	3.853532857	Q9Y508 A0A096LP02 Q9Y508 Q9Y508 A0A096LNT1 A0A096LNV3 A0A096LPF9 A0A096LNN8	2
ALAQVFC*EESGLSPLLQK	C507 C507 C507 C507	3.836705	Q8WU76 Q8WU76 Q8WU76 Q8WU76	2
EVFSSC*SSEVVLSGDDEEYQR	C108	3.835449333	Q09666	3
EADASPASAGIC*R	C230 C230	3.83143	Q9BW27 Q9BW27	2
ALNALC*DGLIDELNQALK	C62 C62	3.831413529	P30084 P30084	3
VLC*ELADLQDKEVGDGTTSVVIAAELLK	C76 C76	3.82991619	P17987 E7ERF2	3
GTVLLADNVIC*PGAPDFLAHVR	C223 C173 C223 C173 C223 C173	3.829657857	P21964 P21964 P21964 P21964 P21964 P21964	3
GWSGNSWGGISLPPDPGPC*GETYEDFDTR	C211 C211 C211 C211	3.822155	P82675 P82675 P82675 P82675	2
EGGVQLLLTIVDTPGFGDAVDNSNC*WQPVIDI DSK	C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125	3.820466667	Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181 Q16181 E7EPK1 E7ES33 Q16181	3
SVTSNQSDGTQESC*ESPDVLDR	C264 C359 C347 C372 C359 C347 C372	3.81949	F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30	2
SLLINEAVEASC*IR	C262 C289 C262 C262 C289 C262 C262 C262 C262 C289 C262 C188 C262 C188	3.81907	P32322 P32322 P32322 P32322 P32322 P32322 Q96C36 Q96C36 P32322 P32322 P32322 J3KR12 Q96C36 A0A087WTV6	3

HGEVC*PAGWKPGSETIIPDPAGK	C245 C245	3.808405	Q13162 Q13162	2
AGQC*VIGLQMGTNK	C153 C185 C153 C164 C101 C185 C153 C164	3.808221667	B4DDF4 B4DUT8 B4DDF4 Q99439 A0A087 B4DUT8 B4DDF4 Q99439	3
ECEHC*DC*LQGFQLTHSLGGGTGSGMGTLLISK	C90 C92 C127 C129 C127 C129	3.807326667	K7ESM5 Q9BUF5 Q9BUF5	2
SLLC*GEDEAADENPESQEMLEEQVLR	C941	3.80524	Q9HAV4	3
VGSDMTSQEFTSC*LK	C128 C108 C128 C108	3.804776667	P40855 Q5QNY5 P40855 Q5QNY5	2
IEGC*IIGFDEYMNVLDDAEIHSK	C6 C46 C6 C46 C6 C46 C6 C46 C6 C46	3.804013333	A6NHK2 P62304 A6NHK2 P62304 A6NHK2 P62304 A6NHK2 P62304 A6NHK2 P62304	2
EHINLGC*DMDFDIAGPSIR	C127 C127 C127	3.802932857	P21796 P21796 P21796	3
ICDGCIIVDAVEGVC*PQTQAVLR	C73 C124 C73 C124	3.801991429	Q7Z2Z2 Q7Z2Z2 Q7Z2Z2 Q7Z2Z2	2
AAGIIHLGATSC*YVGDNLDLIIR	C113 C113 C113 C113	3.795783333	P30566 P30566 P30566 P30566	3
TYDAASYC*EAAFDEVK	C629 C629	3.794355	P42166 P42166	2
FPEELTQTFMSC*NLTGMFQR	C389 C339	3.790619167	P26641 P26641	3
GSDELFCST*VTNGPFIMSSNSASAANGNDSKK	C23 C23 C23 C23 C23	3.790447333	P26599 P26599 A0A0U1RRM4 P26599 P26599	3
IFTFLYGFLC*PSYELPDTKFEEVPR	C137 C137 C43	3.785395	O14777 O14777 V9GYM9	2
FHVLLTSYELITIDMAILGSIDWAC*LIVDEAHR	C869 C862 C866 C869 C869 C862 C866 C869	3.78188	Q14839 A0A0C4DGG9 Q14839 Q14839 A0A0C4DGG9 Q14839	2
SQMYSTDYDQILPDC*YSWPPEEVQK	C556 C481 C556	3.769065	P48163 P48163 P48163	3
TLETANC*MSSQTK	C96 C96 C96	3.76655	P50416 P50416 P50416	2
C*EGSQPWNLTNR	C294 C298 C294 C294 C298 C294	3.76638	P15735 J3KNN3 P15735 P15735 J3KNN3 P15735	2
C*PEALFQPSFLGMESCGIHETTFSIMK	C257 C257	3.765413636	P60709 P63261	3
DGFYEAELC*PDR	C105 C105 C92 C105 C105 C105 C116 C105 C92 C105 C105 C105 C96 C105 C74 C105 C116	3.75596	Q04206 Q04206 Q04206 A0A087 Q04206 Q2TAM5 E9PKH5 Q04206 Q04206 E9PKV4 A0A087 Q04206 E9PQS6 A0A087WVPO E9PI38 Q2TAM5 E9PKH5	3
VTEPSAPC*QALVSIGDLQATFHGIR	C795 C795 C795	3.75174875	Q9UPN7 Q9UPN7 Q9UPN7	3
TLQNTMVNLGLQAC*DEAIYQLGLDLEEEIEE DAGLNGGLGR	C109 C109 C109 C109	3.748988889	P11216 P11216 P11216 P11216	3
LEHEEGAPC*TAIR	C280 C206 C206 C233 C233 C180 C158 C212 C280 C206 C206 C233 C233 C180 C158 C212 C280 C233 C233 C180	3.74647	Q00536 E5RGN0 Q00536 Q00537 Q00537 F5H6Z0 A0A087WZU2 Q00536 Q00536 E5RGN0 Q00536 Q00537 Q00537 F5H6Z0 A0A087WZU2 Q00536 Q00536 Q00537 Q00537 F5H6Z0	2
KLPILIFPEGTC*INNTSVMFMFK	C306 C306 C325	3.74548	Q53EU6 Q53EU6 Q86UL3	3
ASHIQLDSLPEVPLLDVPC*LSAQLDSDILNIVK	C154 C150 C154 C150	3.74506	Q8IUI8 Q8IUI8 Q8IUI8 Q8IUI8	2
MREIVHIQAGQC*GNQIGTK	C12 C12	3.743215	K7ESM5 Q9BUF5	2
C*IPALDSLTPANEDQK	C447	3.740776	P10809	2
YFTQGNL*VNLTEALSLEYEQLGR	C265 C318 C265 C318 C265 C318 C265 C318 C265 C318	3.736177143	P52788 P52788 P52788 P52788 P52788 P52788 P52788 P52788 P52788 P52788	3
EIFEDVIDAANC*SSADRFRVTLPTILDQLQFTEQN LDEALTR	C379 C379 C379 C379	3.73155	Q8TCG1 A0A087 Q8TCG1 A0A087	2

TVPFLPLLGGC*IDDTILSR	C180 C190 C180 C190	3.731304	Q7Z7H8 Q7Z7H8 Q7Z7H8 Q7Z7H8	2
FSPNSSNPIIVSC*GWDK	C168 C168 C168 C168	3.725364	P63244 P63244 P63244 P63244	3
VLTC*TDLEQGNFFLDFENAQPTSEK	C10 C10 C10	3.712351	Q9NUQ9 Q9NUQ9 Q9NUQ9	2
IGAAIQEELGYNC*QTGGVIAEILR	C112 C112	3.712127143	O00567 O00567	3
VC*IESEHSMDTLLATLKK	C41 C41	3.71178	O00244 O00244	2
VVNEINIEDLC*LTK	C92 C92	3.7107325	Q8N5K1 Q8N5K1	3
VALALC*LGKPADVYLIDEPSAYLDSEQR	C475 C475	3.695105	P61221 P61221	2
KAEGDLGPSWVC*GFSNLESQVLEK	C184	3.691776	Q15814	2
KLFAPQQILQC*SPAN	C230 C230 C263 C263 C230 C230 C263	3.68342	P04183 P04183 K7ERV3 K7ERV3 P04183 P04183 K7ERV3	3
VPPTANVSVDLTC*R	C247 C247	3.676016	P04406 P04406	3
HC*GYLALVSALACGADWVFLPESPPEEGWEEQ MCVK	C221	3.675803333	Q01813	2
QVLVAPGNAGTAC*SEK	C41	3.67072	P22102	2
QPTVTSVC*SETSQELAEQRR	C213	3.669548	Q96HC4	2
C*QNALQQVTAR	C603	3.66456	O94808	2
DKPELQFPFLQDEDTVATLLEC*K	C29 C49 C29 C49 C29 C49	3.6617225	P09543 P09543 P09543 P09543 P09543 P09543	2
NVFEFYAPWC*GHCK	C397 C397	3.660483333	P07237 P07237	2
AGAPDEAVCGENVSQIYC*ALLGCMDDYTDSR	C850 C850 C850	3.660012	Q9BTW9 Q9BTW9 J3KR97	3
TC*NVLVALEQQSPDIAQGVHLDR	C104 C104 C104 C104	3.65357	P31153 P31153 P31153 P31153	3
VC*MLSNNTAIAEAWAR	C376 C376 C376 C376 C376 C400 C310 C134	3.649245667	P68363 Q71U36 P68366 Q13748 Q9NY65 Q9J2C0 Q9NY65 V9GZ17	3
ASIGAGFIYPLVGTMTMPGLPTRPC*FYDIDLDE TEQVK	C961 C962 C896	3.648506875	Q6UB35 B7ZM99 A0A087WVM4	3
FITVCDYTNPC*TK	C288 C259 C293 C280 C300 C301 C288 C259 C293 C280 C300 C301	3.64548	Q99836 Q99836 A0A0A0MS70 Q99836 HOY4G9 A0A0A0MSTO Q99836 Q99836 A0A0A0MS70 Q99836 HOY4G9 A0A0A0MSTO	2
YSDVEVPASVTGYFASDGDGSGTC*SPLR	C430 C430 C430 C430 C430 C430 C430 C430 C430 C430 C430 C430 C430	3.638166667	P35611 E7EV99 P35611 E7ENYO P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENYO P35611 P35611 P35611 P35611	3
YSNSALGHVNC*TIK	C301 C282 C1101 C282	3.632412	Q9NQC3 Q9NQC3 Q9NQC3 Q9NQC3	2
IC*DDELILIK	C357 C357 C357	3.630885	P17987 E7ERF2 P17987	2
YGAVDPLLALLAVPDMSSLAC*GYLR	C223 C223	3.628537778	P52292 P52292	3
LATTAC*TLGDGEAVGADSGTSSAVSLK	C63 C63 C63 C63 C63 C13 C63 C63	3.626045	E9PHI4 O94901 E9PHI4 O94901 O94901 O94901 O94901 O94901	2
IEPEPFENC*LLRPGSPAR	C409 C298	3.61418	P48637 P48637	2
DVQIGDIVTGVGC*RPLSK	C131 C131 C131 C131 C131	3.609896	P62280 P62280 P62280 P62280 P62280	3
KAQC*PIVER	C87 C66 C66	3.609473333	M0R0R2 M0R0F0 P46782	2
GEEKDLAVVTQSAEAPAEEDLLGPNC*YYDK	C310 C230 C310 C310 C230 C310	3.60671	Q5TBP9 Q5TBP9	3
C*IPYAVLLEALALR	C110 C110 C110 C110 C110 C110	3.60664	Q9UBW8 Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8	3

	C110 C110 C110 C110 C110 C110		Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8	
ESGC*SWHGGPDGLYEYLRPSGTPAR	C421 C472 C421 C472 C309	3.597675	Q8I283 Q8I283 Q8I283 Q8I283 F5H4B6	2
NFYGGNGIVGAQVPLGAGIALAC*K	C181 C219 C181 C219 C181 C219 C181 C219	3.596386	P08559 P08559 P08559 P08559 P08559 P08559 P08559 P08559	2
DEFTNTC*PSDKEVEIAYSDVAK	C234 C234	3.593991667	Q9Y696 Q9Y696	3
C*KETPYSEEDFQHLQK	C104 C104 C104 C104	3.584665	I3L4K6 Q9H081 I3L4K6 Q9H081	2
DTQTSITDSC*AVYR	C100	3.5805775	Q9Y5M8	2
TNHIGHTGYLNTVTVSPDGLC*ASGGK	C207 C207	3.577485	P63244 P63244	2
DSAAVC*LSELDYPDINVITGILKDYLR	C459 C392 C116	3.574305	Q6ZW31 Q6ZW31	2
STDWEDDGWGAWEENEPQEPPEEGNTC*K	C67 C67	3.57256	Q9H2M9 Q9H2M9	2
AC*GNFGIPCELR	C288 C288 C288	3.56927	P22234 P22234 P22234	3
TGEPVC*VAELTEENFQR	C258 C258 C258 C107 C258 C258 C258 C107 C258 C258 C258 C258 C107 C258 C258 C258 C107 C258	3.559896	Q8IUD2 Q8IUD2 A0A0U1RQM4 Q8IUD2 G8JLD3 K7EPP6 Q8IUD2 Q8IUD2 Q8IUD2 A0A0U1RQM4 Q8IUD2 G8JLD3 K7EPP6 Q8IUD2	2
TSAAQAIHPGC*GFLSENMEFAELCK	C129 C82 C20	3.5597375	Q96RQ3 E9PG35 E9PHF7	3
LSC*QPMLSLDDFQLQPPVTFR	C105 C105 C105	3.559511667	O75607 O75607 O75607	3
ELFASALSNDLLQNC*QVSEEDGRGEPAMESSQIV SR	C187 C187 C187 C187	3.55664	A6NNN6 Q15154 Q15154 E7ETA6	2
GSQMGTVQPIPC*LLSMPTR	C531 C559	3.556631667	Q9NZB2 Q9NZB2	3
NIAQIAVVMGSC*TAGGAYVPAMADENIIVR	C216 C216 C216	3.555305	Q9HCC0 Q9HCC0 Q9HCC0	2
GLYDGPVC*EVSVTPK	C468 C504 C468 C504	3.546864286	Q16555 Q16555 Q16555 Q16555	3
KAEATEAQEVVEATPEGAC*TEPR	C189 C189	3.544726667	O75683 O75683	2
YTVQDESHSEWVSC*VR	C153 C153	3.54185	P63244 P63244	2
QMEKDETVSDC*SPHIANIGR	C206 C235 C206 C194 C232	3.53759	P47756 B1AK88 P47756 B1AK87 B1AK85	2
LC*LNICVGESGDR	C20 C21 C20 C21	3.53653	P62913 P62913 P62913 P62913	2
GLCLYEDC*IEK	C169 C187 C212 C225 C169 C169 C187 C212 C225 C169	3.53224	Q99615 K7ESP1 K7EIH8 Q99615 K7EPP7 Q99615 K7ESP1 K7EIH8 Q99615 K7EPP7	2
VVYGGGAAEISCALAVSQEADKC*PTLEQYAMR	C440 C402 C419 C440 C402 C419 C402 C419	3.524833333	P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1 B7ZAR1 E9PCA1	2
NHLLPDIVTC*VQSSR	C184 C184 C184	3.52307	Q9BSD7 Q9BSD7 Q9BSD7	3
ALDLSSC*K	C461 C60 C508 C437	3.521792	P31948 HOYGI8 P31948 P31948	2
YIELFLNSC*PK	C476	3.52057	Q12849	2
VGMGSGSIC*ITQEVLACGRPQATAVYK	C331 C331 C331	3.517866667	P12268 P12268 P12268	3
NIDQC*SEIVK	C1296 C1157 C1302 C1296 C1157 C1302	3.51533	Q92878 Q92878 Q92878 Q92878 Q92878 Q92878	2
C*EFQDAYVLLSEKK	C237	3.502534	P10809	3
GHIENPGDGLFAPLPTYSYC*K	C722 C438 C722 C438	3.497135	Q5TB30 Q5TB30 Q5TB30 Q5TB30	2
KECENC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C474 C127 C55 C474 C127	3.494352	A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509	2

IEDIDNEDWENPQLC*SDYVKDIYQYLR	C131 C131 C131 C131	3.493773333	O95067 H1UBN3 O95067 H1UBN3	2
GDGQFFAVSVVC*PETGAR	C213	3.487473333	O95163	2
QVVDC*QLADVNNIGK	C414 C445 C414 C445	3.48466	P28838 P28838 P28838 P28838	2
C*CEEVWCDEPKDQTVVGPALAAAYR	C160 C160	3.48265	P29279 P29279	2
QRPLTASLQC*NSTAQTEK	C92 C92 C92 C92	3.47314	Q9UFW8 C9JUJO Q9UFW8 C9JUJO	2
LVYSTCSLC*QEENEDVVRDALQQNPGAFR	C362 C324 C362 C362	3.47169	Q96P11 Q96P11 Q96P11 Q96P11	2
DADANAGLTC*PR	C721 C556 C676 C749 C721 C556 C676 C749	3.46758	Q5TCZ1 Q5TCZ1 H0Y507 Q5TCZ1 Q5TCZ1 Q5TCZ1 H0Y507 Q5TCZ1	2
ETGANLAIC*QWGFDEANHLLQNNLPAVR	C302 C264 C281 C302 C264 C281 C264 C281 C302 C264 C281 C302 C264 C281	3.465543333	P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1	3
STLIDTLFNTNFEDYESSHFC*PNVK	C100 C100 C85 C100 C77 C100 C100 C100 C85 C100 C77 C100	3.464608333	Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69 Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69	2
AGYDGESIGNC*PFSQR	C487 C469	3.462798	Q96NY7 Q96NY7	2
ADIIHAC*DIVEDAAIAYGYNNIQMTLPK	C362 C362 C362 C362 C362 C362	3.458939444	Q9NSD9 Q9NSD9 Q9NSD9 Q9NSD9 Q9NSD9 Q9NSD9	3
DWDNSGPF*GTISSK	C186 C298 C298 C186 C298 C298	3.45838	B8ZZG1 C9J4Q3 Q9NZW5 B8ZZG1 C9J4Q3 Q9NZW5	2
QGEYGLASIC*NGGGGASAMLIQK	C413	3.45449125	P24752	2
VYEVVNEDPETAFC*TLANR	C617 C603 C618 C617 C618 C617 C603 C618	3.445476667	Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5	3
ILDILGETC*K	C224 C225 C225 C225 C156 C224 C225 C225 C225 C156	3.441185	Q14151 Q15424 Q15424 Q15424 Q15424 Q14151 Q15424 Q15424 Q15424 Q15424	2
RGPEVTSQGVQTSSPAC*K	C732 C813 C603 C627 C892 C627 C892 C892 C732 C813 C603 C627 C892 C627 C892 C892 C732 C813 C270 C603 C627 C892 C627 C31 C892 C892	3.43666	V9GY86 HOYH87 Q99700 F8VQP2 Q99700 F8WB06 Q99700 Q99700 V9GY86 HOYH87 Q99700 F8VQP2 Q99700 F8WB06 Q99700 Q99700 V9GY86 HOYH87 F8WB05 Q99700 F8VQP2 Q99700 F8WB06 F8WB05 Q99700 Q99700	2
YWLC*AATGPSIK	C249 C249 C249 C249	3.435094444	P63244 P63244 P63244 P63244	2
C*GVPFDDLDAAK	C230 C149 C201	3.43501	Q01433 Q01433 H0Y360	2
VASMAQSAPSEAPSC*SPFGKK	C116 C242 C222 C212 C139 C196	3.43369	C9J9J4 Q00013 Q00013 Q00013 C9JB34 A8MTH1	2
C*LHPLANETFVAK	C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71	3.432303333	A0A0D9SFB0 Q13642 Q13642 A0A0D9SGB2 A0A0D9SFZ9 Q13642 Q13642 A0A0D9SFI6 A0A0D9SG53 Q13642	2
KTFVGT*WMAPEVMEQVR	C237 C218 C191 C191	3.423718571	Q9UEW8 Q9UEW8 C9JIG9 O95747	3
LWSVPDC*NLHHTLR	C263 C262 C263 C262	3.42288	O43172 O43172 O43172 O43172	3
YAEYFLRPMLQYVC*DNSPEVR	C915 C933 C915 C933 C855 C915 C933 C917	3.41329	O00410 O00410 O00410 O00410 O00410 O00410 O00410 H0Y8C6	2
LWDFQGFEC*IR	C184 C184 C184 C184 C184	3.403968	P43034 P43034 P43034 P43034 P43034	3

VADSSPFALELLISDDCFVLDNGLC*GK	C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290 C275 C290	3.39901	P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121 P40121	3
IRPLNSEGTLNLLNC*EPPR	C1517 C1517	3.391874	Q9Y5S2 Q9Y5S2	3
QEEVC*VIDALLADIR	C971 C971	3.388385	Q27J81 Q27J81	2
ELETVC*NDVLSLLDKFLIK	C97 C84 C97 C84 C97 C84	3.38761	Q04917 A2IDB2 Q04917 A2IDB2 Q04917 A2IDB2	2
DFIKNMITGTSQADC*AVLIVAAGVGEFEAGISK	C111 C111 C111 C111 C111 C111 C111 C111 C111 C111 C111	3.387595	AOA087WV01 P68104 P68104 Q05639 P68104 Q5VTE0 Q05639 P68104 P68104 AOA087WV01 Q05639	3
LGTTAGQMC*SGLPGLSSVDINNFSGDSINESEGIPL KR	C475 C475	3.37403	AOA087WV66 P46013	3
GEVPC*TVTSASPLEEATLSELK	C141 C37 C141 C37	3.365715	P48047 H7C068 P48047 H7C068	2
VMTIPYQPMPASSPVIC*AGGQDR	C194 C194 C194 C194	3.365036857	Q15365 Q15365 Q15365 Q15365	3
NIELIC*QENEGENDPVLQR	C228 C228	3.36448	Q15691 Q15691	2
EYTEENIQLVADGC*CNLQK	C778 C779 C713	3.356583333	Q6UB35 B7ZM99 AOA087WVM4	3
AFDTAGNGYC*R	C223 C223	3.35617	P49327 P49327	2
YSWSGEPLFLTC*PTSEVELPACSQCGGQR	C278 C278	3.35581	Q9BRP1 Q9BRP1	2
SAGAC*TAAAFK	C431 C462 C431 C462	3.354515	P28838 P28838 P28838 P28838	2
SSSQPSSCC*SDPSKPGGNVEGATQSLAEQMR	C290	3.35401	Q13501	2
LAIIVDEGGDALLVSLVC*R	C86 C86 C86 C86 C86 C86	3.344561429	AOA0B4J2E5 AOA0B4J2E5 AOA0B4J2E5 Q15269 AOA0B4J2E5 AOA0B4J2E5	3
KGGPGVALSVGTLPLDSGAGSESGTATPSALITT NMVAMEAIC*PEGIAR	C755 C748	3.34447	P08047 P08047	2
CPEALFQPSFLGMESC*GIHETTFSIMK	C272 C272 C272 C272	3.341654884	P60709 P63261 P60709 P63261	3
TTSFAESC*KPVQQPSAFGSMK	C14 C14 C14 C14	3.340565	P49841 P49841 P49841 P49841	2
MQHNLNPDQLIPEQITTDITPEC*LVSPR	C520 C520 C520 C473 C520 C370 C520 C520 C473	3.339504	Q96AC1 Q96AC1 Q96AC1 HOYJ34 Q96AC1 AOA0U1RRM8 Q96AC1 Q96AC1 HOYJ34	2
LALFNPDVC*WDRNNPEPWNK	C44 C44 C44 C44 C44	3.337818095	O00483 O00483 O00483 O00483 O00483	3
QLSSVTGLTNEEENC*QR	C494 C494	3.33468	P46940 P46940	2
AGEGTYALDSESC*MEK	C272 C255 C272 C272 C255 C272	3.328272857	O00541 B5MCF9 O00541 O00541 B5MCF9 O00541	2
MIHSLFLINC*SGDIFLEK	C10	3.321355	Q9Y2T2	2
GPAVGIDLGTYS*VGVFQHGK	C17 C17 C17 C17 C17 C17 C17 C17 C17 C17 C17 C17	3.319756667	P11142 P11142 E9PKE3 P11142 P11142 E9PKE3 P11142 P11142 E9PKE3 P11142 P11142 E9PKE3	3
TVDSQGPTPVC*TPTFLER	C237 C237 C237 C237	3.31609	Q9BYG3 Q9BYG3 Q9BYG3 Q9BYG3	3
SC*LLEEEESGEEAAEAME	C146 C96 C146	3.31546	Q969H6 Q969H6 Q969H6	2
ESLC*QAALGLILK	C509 C462 C400 C509 C462 C400	3.30301	Q96RQ3 E9PG35 E9PHF7 Q96RQ3 E9PG35 E9PHF7	2
YTIVVSATASDAAPLQYLAPYSGC*SMGEYFR	C294 C244 C272 C294 C244 C272 C294 C244 C272 C294 C244 C272 C294 C244 C272 C294 C244 C272	3.30252	P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705	3

LVTSPCC*IVTSTYGW TANMER	C598 C720 C598 C720 C598 C720	3.30116	P07900 P07900 P07900 P07900 P07900 P07900	2
MDSLIIAGQINTYC*QNIK	C327 C341 C327 C341	3.28899	O15372 B3KS98 O15372 B3KS98	2
YDC*GEEILITVLSAMTEEA VAIK	C159 C129 C159 C129 C159 C129	3.288966667	P63241 P63241 P63241 P63241 P63241 P63241	3
SPA AEC*LSEKETEELMA WMR	C573 C520 C573 C520 C573 C520 C573 C364 C520	3.287283	Q12931 Q12931 Q12931 Q12931 Q12931 P01775 Q12931 Q12931 I3L0K7 Q12931	3
STVLSLDWHPNPNVLLAAGSC*DFK	C162 C162 C115 C162 C162 C115 C162 C162 C162 C115 C162 C162	3.285483333	O15143 E9PF58 Q92747 Q92747 E9PF58 Q92747 Q92747 O15143 E9PF58 Q92747 Q92747 O15143	3
LPITV L N G A P G F I N L C * D A L N A W Q L V K	C241 C240 C241 C240 C241 C240 C241 C240	3.28283	P31939 P31939 P31939 P31939 P31939 P31939 P31939 P31939	2
AFTKPEEAC*SFILSADFPALVVK	C134 C134	3.281456667	P22102 P22102	2
APAALPALC*DLLASAADPQIR	C42 C42 C42	3.2760475	H0YN14	2
SVQFVDWC*PTGFK	C354 C314 C354 C314 C354 C314 C354 C314	3.274556563	A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2	3
IQFN DL Q S L L C * A T L Q N V L R	C440 C585 C440 C585 C585	3.274454286	Q14974 Q14974 Q14974 Q14974 Q14974	2
LNPT YEEQDC*GPPGRPPR	C397 C313 C397 C313	3.273015	Q6ZV89 Q6ZV89 Q6ZV89 Q6ZV89	2
ESSGLVLLSSC*PQTASR	C138 C115 C147 C143 C132 C138 C115 C147 C143 C132	3.26656	H7C1H7 C9JM75 Q6P087 H7C454 Q6P087 H7C1H7 C9JM75 Q6P087 H7C454 Q6P087	2
LTGAGGGGC*GITLLKPGLEQPEVEATK	C287 C339	3.26579	F5H8H2 Q03426	2
YKDLEQQDC*EIAQEIQEK	C85 C85	3.2654875	Q8IVM0 Q8IVM0	2
LLPAITILGC*R	C389 C442 C389 C442 C389 C442 C389 C442 C389 C442	3.259459091	Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6 Q96IJ6	3
NIIQPSPCVLHYYNVPLC*VTEETFTK	C459 C430 C464 C464 C459 C430 C459 C430 C464 C464 C459 C430	3.256596667	Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3 Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3	3
GQNGDDSSAGGDFPPPAEVEPTPEAELLAQPC*H DSEASK	C122 C122	3.25351	O94992 O94992	2
RLDEC*EEAFQGTK	C92	3.253086364	K9J957	3
FHINWDNNMDRLEAIETQDPSLGC*GLPLNCTPIK	C172 C113	3.25058	Q9NVP2 K7ES22	3
EAVFPFQPGSVAEVC*ITFDQANLTVK	C89 C89 C89 C89	3.24102381	P09382 P09382 P09382 P09382	3
ATLQAALC*LENFSSQVVER	C21 C40 C21 C21 C40 C21 C21 C40 C21	3.234363333	P59998 P59998 F8WCF6 P59998 P59998 F8WCF6 P59998 P59998 F8WCF6	2
SC*DPGLEDP CGLNR	C706 C706	3.231455	Q9HAV4 Q9HAV4	2
TTEEQVQASTPC*PR	C108	3.23066	Q14137	3
KC*QGITA PIEAQVR	C766 C766	3.22622	P52756 P52756	2
ILYDSS E I C F P T V P G C * P G A W D V D S E N P Q R	C611 C621 C611 C621 C611 C621	3.22085125	Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8	2
QYPWGVVQVENENHC*DFVK	C293 C293 C278 C293 C270 C293 C268 C268 C278 C268 C268 C268 C278 C268 C260 C293 C293 C278	3.207591333	Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69 D6RER5 D6RGI3 Q9NVA2 Q9NVA2 D6RER5 D6RGI3 Q9NVA2 Q9NVA2 D6RDU5 Q9P0V9 Q9P0V9 B5ME97 Q9P0V9 E7EW69	3

	C293 C270 C293 C271 C271 C269 C271 C269 C268 C271		A6NMH6 Q92599 F8W8I8 Q92599 A6NFQ9 A0A087 Q92599	
LMSANASDLPLNIEC*FMNDLDVSSK	C290 C264	3.20437	O95757 E9PDE8	2
AENGLLMTPC*YTANFVAPEVLKR	C559 C564 C584 C575 C483 C579	3.201306	Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812	3
GEPLWAQNVVPEAEGEDDPAGEAQAGRLPLLPC *AR	C139 C139	3.200171667	A6NED2 G3V2I3	2
EC*EGIVPVPLAEK	C105	3.198413333	P82932	3
EMFPYEASTPTGISASC*R	C363 C323 C254 C363 C323	3.196511818	P42167 G5E972 P42167 P42167 G5E972	3
KDDYEYC*MSEYLR	C40 C40 C40 C40 C40 C40	3.189561	P53611 P53611 P53611 Q5T4U8 P53611 P53611	3
HGFC*GIPITDTGR	C140 C140 C140 C140	3.18306	P12268 P12268 P12268 P12268	3
IC*RDPQTPVLQTK	C364 C400 C364 C400	3.18222	Q9ULW0 Q9ULW0 Q9ULW0 Q9ULW0	2
YINENLIVNTDELGRDC*LINAAC	C147 C147	3.180592917	P17987 E7ERF2	3
LNIISNLDC*VNEVIGIR	C390 C275 C402 C402 C390 C275 C402 C402	3.17896	P30153 P30154 P30154 P30154 P30153 P30154 P30154 P30154	3
DNEVDFQEYCVFLSCIAMMC*NEFFEGFPDKQPR	C76 C76 C76	3.1777825	P26447 P26447 P26447	2
LDEKNNAFPC*QVNIK	C675 C712	3.17118	Q9NQW6 Q9NQW6	2
AALANLC*IGDVITAI DGENTS NMTHLEAQNR	C45 C45	3.166446667	O00151 O00151	2
ETVSEESNVLC*LSK	C591	3.16566	P13639	2
IPDIVLWPTC*HDDVVK	C214 C214 C214	3.16538	O00116 O00116 O00116	3
DNAAVDGLSHLQDQCPLLYSTDDAIC*SK	C874 C815	3.162844	O75694 O75694	2
NEC*DPALALLSDYVLHNSNTMR	C459 C459	3.155635	Q13200 Q13200	2
NC*LNPQFSK	C54 C54 C54	3.15517	O75131 O75131 O75131	3
EAEVVLGGTESMSQAPYC*VR	C125 C128 C73 C73 C125 C128 C73	3.15355	A0A0B4J2A4 P42765 K7EJB1 K7EMEO A0A0B4J2A4 P42765 K7EJ68	2
SLDSDQC*GITYK	C282 C282 C282	3.151078	Q9NVG8 Q9NVG8 Q9NVG8	3
ELELMFGC*QVEGDAAETPPRR	C251 C277	3.149642727	Q02750 Q02750	2
SLPDC*TPHPNSISIDAGPR	C197 C42 C736 C733 C29 C197 C42 C736 C733 C29	3.128896667	Q9Y2H0 F8WF49 Q9Y2H0 Q9Y2H0 A0A0B4J2C2 Q9Y2H0 F8WF49 Q9Y2H0 Q9Y2H0 A0A0B4J2C2	2
VHIPNDDAQFDASHC*DSDKGEFGGFGSVTGK	C141 C97 C141 C97 C141 C97	3.127774091	Q16576 Q16576 Q16576 Q16576 Q16576 Q16576	2
THEDLYIIPINC*DR	C104 C204 C104 C204	3.12231	P22692 P22692 P22692 P22692	2
SNTGGQAFPQC*VFDHWQILPGDPFDNSSRPSQ VVAETR	C812	3.121962	P13639	3
GFNKETAAC*VEK	C225 C220	3.12076	Q15631 E9PGT1	2
MSSYAFFVQTC*R	C23 C23	3.116865	Q5T7C4 P09429	3
LTVVDTPGYGDAINC*R	C146 C111 C121 C146 C111 C121 C146 C111	3.115630667	Q15019 Q15019 Q15019 Q15019 Q15019 Q15019 Q15019 Q15019	3
EDLNC*QEEEDPMNKLK	C139 C139 C139 C139	3.110705	O75821 O75821 O75821 O75821	3
LC*PQFLQLASANTAR	C264 C264 C264	3.110656667	O95630 C9JK83 O95630	2

ASFENNCEIGC*FAK	C15	3.1076575	P56537	3
QIPAITC*IQSQWR	C781	3.091122222	P46940	2
SSETC*YSAIPK	C2436 C2532 C2460 C2477 C2490 C2501 C2436 C2477 C2436 C2532 C2460 C2477 C2490 C2501	3.090136667	O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369	3
IIPGFMC*QGGDFTR	C62	3.0898225	P62937	3
NIC*FTVWDVGGQDR	C62 C62 C62 C62 C62 C62 C62 C62 C62 C62 C35 C35 C35	3.08829	P18085 P18085 P18085 P18085 P18085 P18085 P18085 P18085 P18085 P18085 C9JAK5 C9JAK5 C9JAK5	3
LATGSDDNC*AAFFEGPPFK	C170 C170 C170	3.084266667	O75083 O75083 O75083	3
WC*EYGLTFTEK	C76 C76 C76 C76 C76 C76 C76	3.076346538	P45880 P45880 P45880 A0A0A0MR02 P45880 P45880 P45880	3
RNLADC*LR	C91 C91	3.074735	P49721 P49721	2
TC*LLIVFSK	C20 C20 C20 C20 C20 C20 C20	3.0715	C9JNR4 P61586 P08134 Q5JR08 E9PQH6 P62745	2
VAC*ITEQVLTLVNKR	C477 C477	3.06918	P04843 P04843	3
SYC*AEIAHNVSSK	C96 C96 C114 C96 C96 C114	3.0686675	D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727	2
GPVVLAEDFLDIMGQPINPQC*R	C162 C162 C162	3.0617925	P21281 P21281 P21281	3
SVC*TEAGMFAIR	C389 C389 C252	3.060696667	P35998 P35998 P35998	2
AYEYVEC*PIR	C66 C66 C66	3.05506	P53701 P53701 P53701	3
AEGSDVANAVLDGADC*IMLSGETAKGDYPLEAV R	C358 C358 C358 C284 C358 C358	3.054787368	P14618 P14618 P14618 B4DNK4 P14618 H3BTN5	3
TDICQGALGDC*WLLAAIASLTNNEIAR	C105 C105 C105	3.05158963	P17655 P17655 P17655	3
ILYLDSSC*FPTVPGCPGAWDVDSNPQR	C604 C614 C604 C614	3.046963333	Q9BSJ8 Q9BSJ8 Q9BSJ8 Q9BSJ8	2
GYWAGLDASAQTTSHELTIPNDLIGC*IIGR	C298 C302 C298 C302	3.041163333	Q15366 Q15366 Q15366 Q15366	2
LQDLSSC*ITQGK	C389 C389 C138 C389 C389 C161 C389 C389 C389 C389 C389 C389 C389 C389 C389 C389 C389 C33	3.039255	P29590 P29590 H3BUJ5 H3BT57 P29590 H3BT29 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 P29590 H3BVD2	2
ELEVLLMC*NK	C91 C91 C109 C91 C91 C109	3.038696875	D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727	3
ISPVIYHFVFTNESNETDYVPLPIIDSVEC*NK	C384	3.035955	E9PJD7	2
AVC*MLSNNTTAVAEAWAR	C376 C376 C376 C376 C376	3.032611636	Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3	3
VQDLFC*SVGLNVNPNHFLIMQGR	C132 C132	3.024368	O95347 O95347	2
TLC*GTPNYIAPEVLSK	C212 C212	3.017945	P53350 P53350	2
ALQLLQMYEGRFPC*LEEK	C658 C505 C586 C658 C586	3.01604	Q9H0A0 A0A087WV29 Q9H0A0 Q9H0A0 Q9H0A0	2
IEEDVVVTDSGIELLTC*VPR	C467 C467 C467 C467 C467	3.016009333	P12955 P12955 P12955 P12955 P12955	3
FMDLYPC*SASELK	C536 C536	3.01377	Q12996 Q12996	2
TC*DGVQCAFEELVEK	C155 C268 C131 C184 C155 C268 C131 C184	3.009885	Q9NP72 HOY6T8 A0A087 Q9NP72 Q9NP72 HOY6T8 A0A087 Q9NP72	2
TVCIEKNETLGGTC*LNVGCIPSK	C80 C80	3.009375	P09622 P09622	2

GFEVVMTEPIDEYC*VQQLK	C521 C521 C521	3.008574	P08238 P08238 P08238	3
TILTLTGVSTLGDVKNQESDC*VSK	C33 C297 C33 C297	3.004822857	H3BV17 A6NDG6 H3BV17 A6NDG6	3
VC*PTTETIYNDEFYTK	C546	3.003076667	A0AVT1	2
AWC*VNCFACSTCNTK	C334 C272 C334 C276 C284 C309 C334 C272 C334 C108 C276 C284 C309	2.99924	P48059 P48059 A0A0J9 P48059 P48059 P48059 P48059 P48059 A0A0J9 A0A0M3HER1 P48059 P48059 P48059	2
AVTDSINQLITMC*TQQAPGQK	C1353	2.99628	Q9Y490	2
GIDQC*IPLFVEAALER	C757	2.99008	O95373	3
HTLDGAAC*LLNSNKYFPSR	C170 C102 C113 C35 C134 C170 C102 C113 C35 C134	2.98977	S4R3N1 Q9Y3A3 Q9Y3A3 B4DM50 Q9Y3A3 S4R3N1 Q9Y3A3 Q9Y3A3 B4DM50 Q9Y3A3	3
ISDTGSAGLMLVEFFAPWC*GHCK	C57 C57	2.987908571	P30101 P30101	3
SYIEGYVPSQADVAVFEAVSSPPPADLC*HALR	C50 C50 C50 C50 C50 C50 C50 C50 C50	2.987816667	P24534 F2Z2G2 C9JZW3 P24534 F2Z2G2 C9JZW3 P24534 F2Z2G2 C9JZW3	2
SKLNLQEGHAQC*LEAVR	C110 C146 C230 C91 C97 C214	2.986655	H7C3L3 F8WB76 D3YTC9	2
AFAFVTFADDQIAQSLC*GEDLIK	C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244	2.985482	A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7 A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7 A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7 A0A087 A0A087WYY0 G3V162 Q13148 B1AKP7	2
MPC*ESSPPESADTPTSTR	C1372 C1373	2.9802125	A0A087WV66 P46013	2
AILFSQPLQITDTQQGC*IAPVELR	C716 C716 C716	2.979205455	Q8NBF2 Q8NBF2 Q8NBF2	2
GC*GTVLLSGPR	C134 C134 C105 C136 C113 C134 C134 C105 C136 C113	2.973206	Q07020 G3V203 Q07020 J3QQ67 H0YHA7 Q07020 G3V203 Q07020 J3QQ67 H0YHA7	3
SC*TDSELLHPILLSQEFLLLTLEQK	C48 C10 C10 C48 C10 C10 C48 C10 C10 C48 C10 C10 C48 C10 C10	2.97285	Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5 Q9BVC5 C9J4K0 Q9BVC5	3
DQELYFFHELSPGSC*FFLPK	C376 C343 C376 C343	2.97034	P26639 P26639 P26639 P26639	2
LC*SLLDSEDYNTCEGAFGALQK	C134 C142	2.970246667	Q92973 Q92973	2
TDVKNIEEFLEEVLC*PPK	C100 C100 C100 C100	2.96309375	Q9Y696 Q9Y696 Q9Y696 Q9Y696	3
IVDAVIQEHQPSVLELLELGGAYC*GYS AVR	C119 C69 C119 C69	2.9628	P21964 P21964 P21964 P21964	2
LLVPCALDPPNPNC*YVCASKPEVTVR	C441 C441	2.96076	Q9UBT2 Q9UBT2	2
AAVLVQQWVSYADTELIPAAAC*GATLPALGLR	C112 C112 C31 C112	2.957603333	P26640 P26640 A0A140T936 P26640	2
FSFC*CSPEPEAEAEAAAGPGPCER	C26 C26 C26 C26 C26 C26	2.95697	E3W990 E3W990 Q13501 Q13501 E7EMC7 Q13501	2
LC*VPAMNVNDSVTK	C272 C225	2.95574	O43865 O43865	2
KPASFMTSIC*DER	C845 C845 C845 C835	2.95208	P53396 P53396 P53396 P53396	2
LVVPATQC*GSLIGK	C109 C109 C109 C109 C109	2.950839231	Q15365 Q15365 Q15365 Q15365 Q15365	3
VHTIVISVQHDEEVC*LDEMRDALK	C214 C214	2.950198333	P31153 P31153	3
TCDGVQC*AFEELVEK	C160 C273 C136 C189	2.94657	Q9NP72 H0Y6T8 A0A087 Q9NP72	2

LC*DFGVSGQLIDSMANSFVGR	C114 C211 C114 C211 C181 C207 C181 C207 C114 C211 C181 C207 C114 C211 C114 C211 C181 C207 C181 C207	2.942527	G5E9C7 P36507 G5E9C7 P36507 Q02750 Q02750 Q02750 Q02750 G5E9C7 P36507 Q02750 Q02750 G5E9C7 P36507 G5E9C7 P36507 Q02750 Q02750 Q02750 Q02750	3
APELLGC*K	C177 C177 C177 C177 C177 C177 C177 C177	2.937135	G3V5T9 P24941 G3V5T9 P24941 G3V5T9 P24941 G3V5T9 P24941	3
PGHLQEGFGC*VVTNRFDQLFDESDFEVLK	C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11	2.935385625	Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51	3
LFPNSLDQTMHGDSEYNIMFGPDIC*GPGTK	C137 C137	2.93166	P27797 P27797	2
TVPFC*STFAAFFTR	C386 C386 C386 C386 C394 C386 C394 C386	2.926932222	P29401 P29401 P29401 P29401 P29401 P29401 P29401 P29401	3
FC*AFGGNPPVTGPR	C152 C150 C152 C150	2.9235075	O15446 O15446 O15446 O15446	2
STAPVMDLLGLDAPVAC*SIANSK	C191 C196 C116 C166 C191 C196 C116 C166	2.92151	A0A087WV97 Q8WU79 Q8WU79 Q8WU79 A0A087WV97 Q8WU79 Q8WU79 Q8WU79	2
MTVC*LETEKK	C204	2.91365	P53004	2
ISLGLPVGAVINC*ADNTGAK	C28 C28 C28 C32 C28 C28 C28	2.913455789	P62829 J3KT29 B9ZVP7 C9JD32 P62829 J3KT29 P62829	3
FQLTDC*QIYEVLSVIR	C143 C179 C143 C179 C143 C179 C143 C179 C143 C179	2.909873	Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555 Q16555	3
C*SFDVVKR	C169 C169	2.90885	Q9Y678 Q9Y678	2
VVNIEGVDSNMC*CGTHVSNLSDLQVIK	C322 C383 C209 C292	2.908424	Q9BTE6 Q9BTE6 Q9BTE6 C9J5N1	3
LVSSPCC*IVTSTYGTANMER	C590 C590 C590 C590	2.904361429	P08238 P08238 P08238 P08238	2
QNSDFLC*QMDLLQEFYETLEALKDAK	C130 C130	2.903414762	P61201 P61201	3
EVIAVSCGPAQC*QETIR	C162 C71 C162 C71	2.90233	P38117 P38117 P38117 P38117	2
TFQVLGNLYSEGDC*TYLK	C595 C548 C486	2.902046667	Q96RQ3 E9PG35 E9PHF7	2
KC*DLISIPK	C473 C426 C420 C473 C426 C420	2.899245	Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4 Q9ULV4	2
GLLDVTC*K	C120 C120	2.89922	P63208 P63208	2
ELVNAQC*AK	C19 C93 C19 C93	2.89798	I3L2J1 Q9Y3C7 I3L2J1 Q9Y3C7	2
DC*EIKQPVFGANYIK	C58 C80 C80 C4 C14 C58 C80 C80	2.894426667	A6NG10 K7ENL2 K7EMC9 K7EIN1 K7ESN4 K7EIJ0 B4DFG2 Q969T9	2
IKSGEEDFESLASQFSDC*SSAK	C113 C113 C40 C113 C40 C113 C113	2.893622264	Q13526 Q13526 K7EN45 Q13526 K7EN45 Q13526 Q13526	3
LSC*QNLGAVLDDVPVQGFCK	C361 C361	2.884436667	Q14690 Q14690	2
GCITIIGGGDTATCC*AK	C352 C380 C352 C380 C352 C380	2.883496667	P00558 P00558 P00558 P00558 P00558 P00558	3
KIHESAGLPFFEIFVDAPLNIC*ESR	C155	2.881428571	O95340	3
VFSANSTAAC*TELAK	C19 C48 C19 C48	2.88055	Q14558 Q14558 Q14558 Q14558	2
ISSTLKVEPC*SLTPGYTK	C219	2.8795125	Q96EB1	2
DAANC*WTSLLESEYAADPWVQDQMQR	C99 C99 C99 C99	2.878393077	Q8WVJ2 Q8WVJ2 Q8WVJ2 Q8WVJ2	3

NTVLC*NVVEQFLQADLAR	C70 C70 C70 C70 C70 C70	2.877845	Q14258 Q14258 Q14258 Q14258 Q14258 Q14258	3
PMC*IPPSYADLGK	C13 C13 C13 C13	2.876347647	P45880 A0A0A0MR02 P45880 P45880	3
SSSQPSSC*CSDPSKPGGNVEGATQSLAEQMR	C289	2.8749	Q13501	2
LLC*SQLQVADFLQNILAQEDTAK	C54 C54	2.873541667	O95229 O95229	2
VC*FVGDGFTR	C154 C154 C63 C154 C154 C63	2.872	A0A0A0MQZ6 O95478 HOYAI9 A0A0A0MQZ6 O95478 HOYAI9	2
TIC*AILENYQTEK	C438 C460 C438 C460	2.869656667	P49591 Q5T5C7 P49591 Q5T5C7	2
AVQDLC*GWR	C428 C428	2.869522	Q9P258 Q9P258	2
LNDDWAYGNDLARPWDFQAEEC*ALR	C769 C674 C769 C674	2.86887	Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9	3
ADEASELAC*PTPK	C2202 C2202	2.868295	P49327 P49327	2
LNNLIC*DESDVKDLAFK	C362 C362	2.86558	Q96EB1 Q96EB1	3
TASISSPSEGTPTVGSYGC*TPQSLPK	C787 C864	2.8610625	Q6PKG0 Q6PKG0	2
LREC*LPLIFLR	C41	2.859249688	P62701	3
FSTQGMGTFNPADYSdstDVC*GTK	C208 C208	2.85465	Q5T6F2 Q5T6F2	2
IQCTLQDVGSAATPC*SSAR	C80 C132 C80 C132	2.853952	S4R3P5 Q96EY8 S4R3P5 Q96EY8	3
LLNLVYDVTPELVDLITELGMIPC*SSVPVLR	C509 C530 C506 C529 C508 C509 C530 C509 C530 C506 C529 C508 C506 C529 C508	2.853574	Q9UI10 E7ERK9 A0A087WTA5 Q9UI10 Q9UI10 Q9UI10 E7ERK9 Q9UI10 E7ERK9 A0A087WTA5 Q9UI10 Q9UI10 A0A087WTA5 Q9UI10 Q9UI10	2
NYVTVMQNNPLTSGLEPPQC*DYIRPSLTGK	C202 C266 C202 C266 C202 C266	2.8521775	P16333 P16333 P16333 P16333 P16333 P16333	3
TSSVSNPQDSVSGSPC*SR	C108 C106 C108 C108 C106 C108	2.849744286	P49023 F5GZ78 P49023 P49023 F5GZ78 P49023	3
NAVIPQYQALFSMDKC*ELNVTEADALK	C538 C538	2.847735	O76031 O76031	2
TSVVFHQLGTAMPMSVEEGPEC*QGPVVDRR	C78	2.846285	Q9P1U0	2
C*GETAFIAPQCEMIPIEWVCR	C81	2.845194762	P22234	3
QVLMGPYPNDTC*PEVGFDFVLGNDR	C129 C129	2.843006	Q9H3P7 Q9H3P7	2
C*FIVGADNVGSK	C27 C27 C27	2.82909	F8VU65 P05388 P05388	2
DVSSLPDVVNC*MQTDNLELKK	C57 C57	2.827455	P63010 P63010	2
YLVLDL*VPEER	C1062 C1041 C1062 C1041	2.82713	O14776 O14776 O14776 O14776	2
ESATFLC*EVPQPSTEAAWFK	C354 C354 C354 C354 C354 C354 C354	2.82163	Q5VST9 Q5VST9 Q5VST9 Q5VST9 Q5VST9 A6NGQ3	2
AIQESLLTSTEGLC*PSALSETSR	C540 C540	2.8207875	Q8IZ07 Q8IZ07	2
KLGEWVGLC*K	C92	2.82043	P25398	2
AFQYVETHGEVC*PANWTPDSPTIKPSPAASK	C229 C229 C229 C211 C229	2.818682778	P30048 P30048 P30048 P30048 P30048	3
LMEQLLSSVGFC*TEVEEDLIDAVTGLSGSGPAYAF TALDALADGGVK	C159 C186 C159 C159 C186 C159	2.81868	P32322 P32322 P32322 P32322 P32322 P32322	2
YSLADQTSQDQSPLPPCTPTPPC*AEMR	C569 C573	2.818156667	Q06124 Q06124	2
GVSINIMLGQLAPAGTGC*FDLLDAEK	C1470 C1470 C1470 C1470 C1470 C1470	2.81583	A0A0C4DGZO A0A087WWE2 P24928 A0A0C4DGZO A0A087WWE2 P24928	2
EANTLNLAPYDACWNAC*RGDR	C285 C285 C285 C285 C285 C285	2.81417625	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	2
SLREC*ELYVQK	C18 C18	2.81245	P10644 P10644	2

SGLTPNDIDVIELHDC*FSTNELLTYEALGLCEPQQ GATLVDR	C307	2.81139	P22307	3
ISSINSISALC*EATGADVEEVATAIGMDQR	C241	2.809347143	O60701	3
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C198 C173	2.8087625	M0R383 M0R0Y4 M0QYS6 Q03405 Q03405 M0QYR6	3
VMGIVENMSGFTC*PHCTECTSVFSR	C196	2.807975833	Q9Y5Y2	3
ADPDGPEAQAEAC*SGER	C18 C18 C18 C18 C18 C18 C18 C18 C18 C18 C18 C18	2.805741	D6RCB9 J3QSY4 D6RC52 D6RCB9 J3QSY4 D6RC52 D6RCB9 J3QSY4 D6RC52	2
IADISQVYTQNAEMRPLGC*CMILIGIDEEQGPQV YK	C117 C136	2.799445	P60900 P60900	2
AC*YLSINPQKDEALETEK	C222 C222 C222 C222	2.798444	P42025 P42025 P42025 P42025	2
INDALSC*EYECR	C216 C216 C216 C216	2.797262	Q52LJ0 Q52LJ0 Q52LJ0 Q52LJ0	3
DDFAYCLNCF*DLyak	C214 C324 C330 C214 C324 C330	2.7915625	Q14192 J3KNW4 A0A0A0MSG2 Q14192 J3KNW4 A0A0A0MSG2	2
LVTSPC*CIVTSTYGTANMER	C597 C719	2.77898	P07900 P07900	2
LSLQNC*CLTGAGCGVLSSTLR	C95 C95	2.77636	P13489 P13489	2
VGIGPGSVC*TTR	C186 C204 C204 C186 C204 C204	2.775058	Q9P2T1 Q9P2T1 H0YNJ6 Q9P2T1 Q9P2T1 H0YNJ6	3
APPWVPAMGFTLAPSLGC*FVGSR	C19 C19 C19 C19 C19 C19	2.774621111	B1AH87 P30536 B1AH87 P30536 B1AH87 P30536	3
KIIPTEEGLQLPSPTATSQLPLESDAVEC*LNyQH YK	C132 C132	2.770885625	P61978 P61978	3
C*FSIDNPGYEPEVVAVHPGGDTVAIGGVDGNVR	C438	2.76669	O75083	3
SFGC*PGPQDVGEFPEVRDALQAAVDFYEENLSL VTALGDR	C161 C161 C161	2.76633	P81274 Q5T1N9 P81274	2
IHQc*ISINMLADKLNMTPEEAER	C350 C350	2.76484	P60228 P60228	2
VC*ATLPSTVAVTSVCWSPK	C186 C186 C186 C186 C186 C186 C186 C186 C186 C186	2.76401	P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658	2
NAGNC*LSPAVIVGLLK	C335 C369 C335 C369 C335 C369	2.762931	Q5SZU1 O43175 Q5SZU1 O43175 Q5SZU1 O43175	3
SLLETNEIPSLILWPPGC*GK	C52 C272 C272 C52 C272	2.761894	Q96S55 Q96S55 Q96S55 Q96S55 Q96S55	2
NPLC*PLGQTVQSElFR	C115 C115 C115	2.758266667	Q9Y5R8 Q9Y5R8 Q9Y5R8	3
SLC*NLEESITSAGRDDLESFQLEISGFLK	C63 C63	2.757966875	Q52LJ0 Q52LJ0	3
QSLDVLdLC*EGDLSPGLTDSTAPSELGKDDLEEL AAAAQK	C431 C431	2.75568	Q8Iz73 Q8Iz73	2
ICDFCYDILLSAGDMATC*QPAR	C219 C219	2.753095	Q9H8W4 Q9H8W4	2
VDEFPLC*GHMVSDEYEQLSSEALEAAR	C49 C49 C49 C49 C49	2.753007634	P27635 P27635 P27635	3
GLSNLGNtc*FFNAVMQNLsQTPVLR	C204 C190 C205 C204 C205 C204 C190 C205	2.7497975	Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5 Q9Y5T5	3
YAGLSTC*FR	C300 C300 C300 C300	2.7455	P49591 Q5T5C7 P49591 Q5T5C7	2
ALVDGPC*TQVR	C42 C42 C42 C42 C42 C42 C42 C42	2.745475	E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914 E7EPB3 P50914	2
ENEITGALLPC*LDESr	C80 C80 C80	2.7369575	Q9Y3Z3 Q9Y3Z3 Q9Y3Z3	2
MAAISESNINLCGSHC*GVSIGEDGPSQMALEDLA MFR	C417 C417 C417 C417	2.736752813	P29401 P29401 P29401 P29401	3
NC*LTNFHGMDLTr	C96 C59 C76 C59	2.736501176	P61247 D6RAT0 D6RG13 D6RB09	3
KVAEPELMGTPDGTc*YPPPPVPR	C1889	2.735879375	P27708	3

IINDNATYC*R	C211 C211	2.735863333	O00567 O00567	2
FMTPIQDNPSGWGPC*AVPEQFR	C19 C19 C19	2.734475	O15371 O15371 O15371	3
KAVVVC*PK	C607 C588	2.732246667	Q00839 Q00839	2
MVSDINNAWGC*LEQVEKGYEELLNEIR	C370 C370 C370 C370 C370 C370 C370 C370 C370 C370 C370	2.72951	P12814 P12814 P12814 P12814 P12814 P12814 P12814 P12814 P12814 P12814 P12814	3
DTVVTSAC*SLQTEGSLSTR	C355	2.71815	O43502	2
LTNTYCLVAIGGSENFYSVFEGELSDTIPVVHASIAG C*R	C56	2.71802125	P56537	3
LCLNIC*VGESGDR	C24 C25 C24 C25	2.714572	P62913 P62913 P62913 P62913	2
QAVLGAGLPSTPC*TTINK	C119 C119 C119 C119	2.714405	P24752 P24752 P24752 P24752	3
AHFDYDPSDDPYVPC*R	C366 C332 C366 C332 C366 C332	2.7142025	Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9 Q8N3R9	2
VLVTQQFPC*QNPLPVNSGQAQR	C33 C33	2.711243333	O14965 O14965	2
MQPDQQVVINC*AIVR	C64	2.70767	P50552	2
SSVELPPYSGTVLC*GTQAVDKLPDQGEYQR	C88 C44 C40 C88 C44 C40	2.706803333	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	2
KC*PFYAAEQDK	C236 C265 C319 C236 C265 C319 C236 C265 C319	2.706178	P30519 P30519 A0A087WT44 P30519 P30519 A0A087WT44 P30519 P30519 A0A087WT44	2
SIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C347	2.701562222	P68363 P68363 P68363 P68363 P68366 P68366 P68366 P68366 P68363 P68363 P68366 P68366 P68366 P68366 P68366	3
GDFYVIEYAAC*DATYNEIVTLER	C109	2.69970375	P51116	3
CEYPAAC*NALETLIHR	C612 C612 C612	2.69835375	P54886 P54886 P54886	3
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575	2.694332	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUU4 Q04637 Q04637 Q04637	3
VQVSDPESTVAVAFPTPHC*SMATLIGLSIK	C93	2.693071905	Q9Y3D0 Q9Y3D8 Q9Y3D8 Q9Y3D8 Q9Y3D8	3
EEQLYDGYDEEYDC*PILDEDVVDELNDQMR	C53 C50 C53 C50	2.692706667	Q9Y3D8	2
QHFIQEEQILEIDC*TMLTPEPVLK	C180 C180 C180 C180	2.690231	P41250 P41250 P41250 P41250	3
C*KPVPLLELAEGQK	C73 C66 C73 C66	2.6855	Q8NHV4 Q8NHV4 Q8NHV4 Q8NHV4	2
FALNNPEMVEGLVLINVNPC*AEGWMDWAASK	C102 C168 C87 C102 C168 C87 C102 C168 C168 C87 C102 C168 C87	2.684935833	Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 Q92597 E5RIM2 Q92597 Q92597 Q92597 Q92597	3
GVLAC*LDGYMNIALEQTEEYVNGQLK	C36 C36 C36	2.684262857	P62312 P62312 P62312	2
LDINLLDNVVNC*LYHGEQAQR	C34 C34	2.6825115	O14980 O14980	3

AHQSESYLPIGC*K	C255 C346 C255 C346	2.68144	O75815 O75815 O75815 O75815	2
EC*SNIPLSQPQQGEAMLANFKPR	C248 C248	2.68092	Q9H2C0 Q9H2C0	2
EHSLIEDLILLEEC*DANIR	C421 C362 C421 C362 C421 C362 C421 C362 C421 C362	2.679046667	Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4 Q9H7B4	3
LANLAATIC*SWEDDVNHSFAK	C210 C210 C210	2.674134286	Q9NQW6 Q9NQW6 Q9NQW6	2
LMGLSDPELGPAADGFSLLMSDC*TDVLR	C848 C869 C848 C869	2.673394167	Q96T76 Q96T76 Q96T76 Q96T76	3
VSDTVVEPYNATLSVHQLVENTDETYSIDNEALYDI C*FR	C211 C211	2.67283	Q13885 Q13885	2
TVLCGTC*GQPADK	C479 C492 C561 C187 C591 C591	2.66872	P02545 P02545 P02545 A0A0C4DGC5 P02545 P02545	2
GC*QDFGWDPCFPDGYEQTYAEMPK	C129 C146 C105 C129 C146 C105	2.66585	Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32	3
EMQNLFSQDC*YSSK	C111 C111 C111	2.665815455	P30084 P30084 P30084	3
VFIGKDCIGGC*SDLVSLQSQSGELLTR	C83	2.65917	P35754	2
LGC*NITISEDITPR	C38 C38 C38 C38	2.65610375	Q96FJ0 Q96FJ0 Q96FJ0 Q96FJ0	3
DMEPEMVCIDSC*GR	C184 C184	2.655204	Q9NQT5 Q9NQT5	2
SSIEDAQC*PGLPDLIEENHVVNK	C696 C615 C696 C696	2.653366667	Q15398 Q15398 Q15398 Q15398	3
MLPTYVC*ATPDGTEKGDFLALDLGGTNFR	C517 C517	2.651401579	P52789 P52789	3
VNIEGGAIALGHPLGASGC*R	C360 C389 C360 C389	2.64406	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	2
QPAIMPQSQYGLDGC*SYK	C413 C472	2.641579231	P14866	3
C*CSGAIIVLTK	C423 C423	2.639423333	P14618 P14618	2
ALQSNIIIFC*DEVMLLLENLGNENVHR	C544 C689 C689	2.63727	Q14974 Q14974 Q14974	2
DAWASPC*HSYPLVATR	C374	2.636643333	Q13425	2
QNLFQTGSNVFSFSC*GGETR	C203 C203 C203 C203 C203 C203 C203 C203 C203 C203	2.634005	Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5	3
KLLAPDC*EIIQEVGK	C215 C215 C215	2.626967368	Q9NQT5 Q9NQT5 Q9NQT5	3
IIATAVC*HTDAYTLGADPEGCFPVILGHEGAGIV ESVGEVTK	C45 C45	2.623555	P11766 P11766	2
LC*VQNQPQEAR	C150 C150 C150 C150	2.622296667	E9PID8 P33240 P33240 E7EWR4	2
KGDEC*ELLGHSK	C290	2.622	P49411	2
ELSFSGIPC*EGGLR	C36 C36 C36	2.61923	Q9NVG8 Q9NVG8 Q9NVG8	2
EWNLPNAPAC*MER	C26 C26 C26 C26	2.61773	Q9BQA1 Q9BQA1 Q9BQA1 Q9BQA1	3
LVATDGAFMSMDGDIAPLQEIIC*LASR	C245 C219 C245 C219	2.617483333	O75600 O75600 O75600 O75600	2
GVLMYGPPGC*GK	C210 C179 C210 C179 C210 C179 C210 C179	2.61747875	P43686 P43686 P43686 P43686 P43686 P43686 P43686 P43686	3
C*SPTVAFVEFPSSPQLK	C669 C669 C669 C657 C669 C669 C669 C669 C657 C669 C669	2.61374	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0	2
ARDC*LIPMGITSENVAER	C177 C177 C136 C177	2.612446316	P09110 P09110 C9JDE9 P09110	3
SSVQEEC*VSTISSKDEDPLAATR	C78 C78 C78 C78	2.612377778	Q7L0Y3 Q7L0Y3 C9JVB6 Q7L0Y3	3

GDLNDC*FIPCTPK	C143 C199 C143	2.609505	P11586 F5H2F4 P11586	2
DIAQQLQATC*TSLGSSIQGLPTNVKDVQQAR	C340 C329 C341 C340 C329 C158 C341	2.6079	O60664 O60664 O60664 O60664 O60664 O60664 O60664	2
IGFPETEEEEIEIASNSDC*IFPSAPDVKA	C340 C353 C340 C353 C340 C353	2.604331429	Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4	3
WC*NVQSTQDEFEELTMSQK	C59 C59 C59 C59 C59 C59	2.603446667	D6RFG8 P27707 D6RFG8 P27707 D6RFG8 P27707	2
CEHC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C90 C127 C127 C127	2.59884	K7ESM5 Q9BUF5 Q9BUF5 Q9BUF5	2
ISAFGYLEC*SAK	C159 C159 C159 C159 C159 C159	2.597343333	P08134 Q5JR08 E9PQH6 P08134 Q5JR08 E9PQH6	2
SC*ETSSQDLGFSYPAENLIEYK	C57 C57 C10 C57 C57 C57 C10 C57	2.596675	S5FZ81 Q8WUB8 Q8WUB8 Q8WUB8 S5FZ81 Q8WUB8 Q8WUB8 Q8WUB8	2
GFC*HLCDGQEACCVGLEAGINPTDHLITAYR	C91 C129	2.592981429	P08559 P08559	2
HTGPGILSMANAGPNTNGSQFFIC*TAK	C115 C115 C115 C115 C115	2.592856667	P62937 C9J5S7 F8WE65 P62937 P62937	3
C*MPTFQFFK	C73 C73 C73	2.591372308	P10599 P10599 P10599	3
ENTIEHLLPLFLAQLKDEC*PDVR	C262 C389 C389 C262 C389 C389	2.589513333	P30154 P30154 P30154 P30154 P30154 P30154	2
TRDGSYEGWC*WPGSAGYPDFTNPTMR	C502 C524 C502 C524	2.587274286	Q14697 Q14697 Q14697 Q14697	3
AIVPPYSLC*QTGEDLPKDK	C686	2.586593333	Q01804	2
MALDALLQEIALSEPQLC*EVLQVAGPDR	C38 C38 C38	2.5859425	C9J6P4 Q7Z2W4 C9J6P4	2
FQSSAVMALQEASEAYLVGLFEDTNLC*AIHAK	C111 C111	2.585362	Q71DI3 Q71DI3	3
EITLQLGQC*GNQIGFEFWK	C13	2.58449	P23258	2
NYLPAINGIVFLVDC*ADHSR	C102 C102 C102	2.583205	Q5SQT8 Q9NR31 Q9NR31	2
AVAILC*NHQR	C630	2.580643333	P11387	2
EANTLNLAPYDAC*WNACRGDR	C281 C281 C281 C281 C281 C281	2.578705	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	2
AKFENLC*K	C564 C337 C564	2.57801	P08238 Q58FF8 P08238	2
MTEEEVEMLVAGHEDSNGC*INYEAFVR	C102 C138 C139 C138 C139	2.577835	G3V1Y7 P60660 J3KND3 P60660 J3KND3	2
VVAAAFQSEDPADPC*ALLQR	C402	2.57672	Q8N8A6	2
GNVAGDSKNDPPMEAGFTAQVIILNHPGQISAG YAPVLDC*HTA	C361 C363 C342 C363	2.575583636	A0A087WV01 P68104 P68104 P68104	3
RATVAPEDVSEVIFGHVLAAGC*GQNPVR	C65 C94 C65 C94	2.575294737	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	3
NQLC*DLETK	C62 C62 C62	2.57425	P26358 P26358 P26358	3
C*HEDNVVAVDSTTNR	C196 C196 C196 C196	2.571695	E9PC74 Q13144 E9PC74 Q13144	2
YSLADQTSQDQSPLPPC*TPTPPCAEMR	C563 C567 C563 C567	2.570685	Q06124 Q06124 Q06124 Q06124	2
TSC*GSPNYAAPEVISGR	C185 C200 C174 C174 C174 C174 C185 C200 C174 C174 C185 C200	2.57062	Q13131 Q13131 A0A087 P54646 A0A087 P54646 Q13131 Q13131 A0A087 P54646 Q13131 Q13131	3
EADQKEQFSQGSNSC*LETSLAEIFPLGK	C102 C161 C102 C161 C102 C161	2.569914	A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88	3
LFVSGAC*DASAK	C204	2.568325	P62873	2
LWNTLGVC*K	C138 C138 C138 C138 C138	2.565813333	P63244 P63244 P63244 P63244 P63244	3
IDATQVEVNPFGETPEGQVVC*FDAK	C255 C255 C255 C255 C255 C255	2.56359	Q96I99 Q96I99 Q96I99 Q96I99 Q96I99 Q96I99	3

NWYVQPSC*ATSGDGLYEGTLWLTSNYKS	C155 C155	2.562708	P62330 P62330	2
ELANSPDC*PQMCAIK	C189 C187 C189 C187 C187 C187	2.56007	P48739 P48739 P48739 P48739 P48739 A0A0A0MSW4	3
VAC*AEEWQESR	C87 C87 C87	2.559638333	O75663 O75663 O75663	2
ASTASPC*NNNINAATAVALQEPR	C598 C605 C599 C528 C528 C598 C605 C599 C528 C528	2.55458	Q71RC2 Q71RC2 Q71RC2 Q71RC2 Q71RC2 Q71RC2 Q71RC2 Q71RC2 Q71RC2 Q71RC2	2
SGQGAFGNMC*R	C96 C96	2.551891818	P36578 P36578	3
LMSSNSTDLPLNIEC*FMNDKDVSGK	C290 C290 C292 C290 C290 C292 C290 C290	2.540883333	Q92598 Q92598 Q92598 Q92598 Q92598 Q92598 Q92598 Q92598	3
CSFRCNC*HGSPC*EQDSGR	C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201 C196 C201	2.538235	Q14162 Q14162 Q14162 A0A0A0MR54 Q14162 Q14162 Q14162 Q14162 Q14162 A0A0A0MR54 Q14162 Q14162	2
AEEDVEPEC*IMEK	C102 C127 C24 C127 C127 C32 C56 C127 C127 C127	2.53799	B4DD6 Q9UU6 Q9UU6 Q9UU6 Q9UU6 Q9UU6 H0Y5J4 Q9UU6 Q9UU6 Q9UU6	2
IYHPNINSNGSIC*LDILR	C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C56 C86 C56 C85 C85 C85 C56 C85 C87 C79	2.53581	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	2
WVLTAHC*LAQRMAQLR	C28 C67 C28 C67	2.53483	U3KQV5 P51124 U3KQV5 P51124	2
VPLDVAC*AR	C3295 C3295 C3185 C3162 C3144 C3126 C3158 C3158 C3136 C3181	2.5344	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	2
DSAQC*AAIAER	C376 C376	2.53202	Q96RS6 Q96RS6	3
C*ALSSPLAFTPIK	C238 C120 C255	2.5316	Q8NFH5 Q8NFH5 Q8NFH5	2
FYTDPEAVKDIPDGATVLVGGFGLC*GIPENLIDA LLK	C67	2.530962	P55809	3
RC*PGESLINPGFK	C180	2.52904	Q9BUH6	2
MPC*QSLQPEPINTPHTK	C1006 C1007	2.52836	A0A087WV66 P46013	2
TADIC*QMLVSTVDGDLYPPVEEPVASTDPK	C92 C92	2.52377	Q15545 Q15545	2
NLNDQVLFIDQGNRPLFEDMTDSDC*R	C70 C74	2.5231075	Q14116 Q14116	2
EMDSCPVVGEFPC*QNDINLSQAPALPQPEVIQN MTEFKR	C974	2.522912143	P14735	3
SEDEAGC*SSVDEESYK	C334 C382 C334 C382	2.51851	Q7L4I2 Q7L4I2 Q7L4I2 Q7L4I2	2
IPPC*ISNWK	C88 C156 C250 C250 C88 C156 C250 C250	2.512985	G3V5R3 G3V3A4 Q13573 G3V5R3 G3V3A4 Q13573	2
TFSFC*GTIEYMAPEIIR	C198 C198 C198 C198 C198 C182 C198 C198 C198 C182	2.510285	O75676 O75676 E9PJN1 O75676 O75676 A0A0A6YYC0 E9PJN1 O75676 O75676 A0A0A6YYC0	2
TQADELPAC*LLSAAR	C597 C600 C597 C600	2.507545	P10398 Q96II5 P10398 Q96II5	2
ETHSVDRLPSALTATAC*K	C109 C48 C633 C199 C633	2.507315	H0Y641 A0A087 Q92615 H0Y4V9 Q92615	2
C*GFSELYSWQR	C91 C91	2.505895	Q9NSE4 Q9NSE4	2

SSVNC*PFSSQDMKYSPFFVFG EK	C1029	2.5038275	Q08211	3
SVAPAAPTSC*DFSPGDLVWAK	C88	2.501293333	P52701	2
VLGAHILGPGAGEMVNEAALALEYGASC*EDIAR	C477 C429 C477 C429 C454	2.498772	P09622 P09622 P09622 P09622	3
NLSFFLTPPC*AR	C492 C494 C492 C492 C494 C492 C492 C494 C492 C492 C494 C492	2.497491111	P42224 J3KPM9 P42224 P42224 J3KPM9 P42224 P42224 J3KPM9 P42224 P42224 J3KPM9 P42224	3
AAC*LESAQEPAGAWGNK	C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53	2.49675	A0A024R4E5 C9JEJ8 C9JHS7 C9JZ18 C9JHN6 C9JBS3 A0A024R4E5 C9JES8 C9JT62 A0A0U1RVI6 C9JIZ1 C9JK79 C9J5E5 C9JHZ8	2
YHPLSSC*LTAR	C819 C840 C819 C840	2.496093333	Q96T76 Q96T76 Q96T76 Q96T76	2
ATDSKEPPGELC*PDVLYR	C46 C46 C46 C46	2.49565	Q9BUK6 Q9BUK6 Q9BUK6 Q9BUK6	2
VLPNLPC*VVQEGAIVMAR	C129 C141 C129 C141 C129 C141 C129 C141	2.4927425	Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1 Q53H96 A0A0A0MQS1	2
FEALAAHDALVELSGAMNTTAC*SLMK	C290 C333	2.489312	P07954 P07954	3
GLC*AIAQAESLR	C97 C97 C97	2.484352609	P23396 P23396 P23396	3
SGTIC*SSELPGAFAEAGFHLNEHLYNMIIR	C190 C190 C190	2.481224667	A0A0C4DQG5 P04632 P04632	3
QASLFPDEKEDNLLGTTTC*LIATAVITLFNEPSAEDS K	C651 C651	2.478412	Q01780 Q01780	2
MLSC*AGADR	C105 C105	2.475735	P27635	2
TFC*GTPEYLAPEVLEDNDYGR	C310 C248 C310 C248 C310 C248 C311 C311 C311 C307 C307 C307 C307 C307 C307 C310 C248 C311 C249 C307 C307 C310 C248 C310 C248 C34 C13 C34 C13 C34 C13 C249 C167 C249 C167 C249 C167 C311 C311 C307 C307 C307	2.474781176	P31749 P31749 P31749 P31749 P31749 P31749 P31751 P31751 P31751 Q9Y243 Q9Y243 Q9Y243 Q9Y243 Q9Y243 Q9Y243 P31749 P31749 P31751 M0R0P9 Q9Y243 Q9Y243 P31749 P31749 P31749 P31749 A0A087WY56 A0A087WY56 A0A087WY56 M0R0P9 J3QKW1 M0R0P9 J3QKW1 M0R0P9 J3QKW1 P31751 P31751 Q9Y243 Q9Y243 Q9Y243	3
METYC*SSGSDTSPVIDAVTHALTATTPYTR	C201 C288 C201 C288 C201 C288 C201 C288	2.472521905	E9PCG9 Q02338 E9PCG9 Q02338 E9PCG9 Q02338 E9PCG9 Q02338	3
EYTAC*ELMNIYK	C195 C195	2.470531429	Q9NSD9 Q9NSD9	2
NLGNSC*YLNsvvQVLFsIPDFQR	C335 C335 C335 C335 C335 C335 C335 C335	2.469882	P45974 P45974 P45974 P45974 P45974 P45974 P45974 P45974	2
VLFPGCTPPAC*LLDGLVR	C440 C414 C440 C414 C440 C414	2.4662375	Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74	2
LMSSLPNFC*GIFNHLE R	C35 C35 C35 C35 C21 C35 C35 C35 C35 C35 C35 C21 C35 C35	2.463328333	Q96PU8 Q96PU8 Q96PU8 Q96PU8 HOYFB7 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 Q96PU8 HOYFB7 Q96PU8 Q96PU8	2
IATPFQVYSWTAPQAEHAMDC*VR	C333 C274	2.45827375	O75153 K7EIG1	3
GTLTLC*PYHSDR	C779 C779	2.457148571	Q13200 Q13200	2
NTGDADQWC*PLLETLTDAEMEKK	C350 C359 C350 C341 C304	2.45331	Q12824 G5E975 Q12824 Q12824 B5MCL5	3

NFVENFC*AITGQSLNHVLCNQDSDLPEGATVPAL GLSNK	C540 C470 C449 C475 C405 C540 C449 C405 C475	2.45053	Q6IA86 Q6IA86 Q6IA86 Q6IA86 Q6IA86 Q6IA86 Q6IA86 Q6IA86 Q6IA86	2
TFVDFFSQC*LHEEYR	C215 C215 C215 C215 C215	2.449654	Q53GQ0 Q53GQ0 Q53GQ0 Q53GQ0 Q53GQ0	3
RVDDFEAGAAAGAAPGEEDLC*AAFNVICDNVVK	C98 C98 C98	2.44934	Q13158 Q13158 Q13158	3
EGGQYGLVAAC*AAGQGQHAMIVEAYPK	C458 C436	2.44774625	P55084 P55084	2
EDPTVSALLTSEKDWQGFLELYLQNSPEAC*DYGL	C209 C237 C237 C237	2.447023333	P78417 P78417 P78417 P78417	2
MSDSADKPIDNDAEGVWSPDIEQSFQEALAIYPP C*GR	C53 C53 C38 C53 C53 C53 C38 C53 C144	2.446784	P28347 HOYEJ9 P28347 HOYE88 P28347 HOYEJ9 P28347 HOYE88 HOYCZ6	2
EVLEHPWITANSSKPSNC*QNK	C393	2.446383333	O14965	2
GPQLFHMDPSGTFVQC*DAR	C107 C165	2.44582	P28066 P28066	2
IPDQLGYLVLSEGAVLASSGDLENDEQAASISELV STAC*GFR	C51 C51 C51 C51 C51 C51	2.445805	A0A087WV46 Q0VGL1 A0A087WV46 Q0VGL1	2
DKLDPMALC*R	C494 C494 C439 C494 C494 C439	2.44529	O00469 O00469 E7ETU9 O00469 O00469 E7ETU9	2
EFC*SYLQYLEYLSQNRPPPNAYELFAK	C278 C278 C278	2.444686667	O14744 O14744 O14744	2
HDMAAAGFTEALTFALC*SQEDIADKLGVDISATK	C418 C418 C418	2.443625714	Q9NSD9 Q9NSD9 Q9NSD9	3
LVATDGAFSMDGDIAPLQEIC*CLASR	C244 C218	2.437865	O75600 O75600	2
LQDSFC*SGQTLWELLSHFQIR	C109	2.43628	Q9BZE9	3
VGSFGSSPPLSSTYTGGPLGNEIASGNGGAAAG DDEDGQNLWSC*ILSEVSTR	C51 C51	2.435774	Q9Y6G9 Q9Y6G9	3
C*SDSGLAPPQHILIR	C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182	2.434594286	P04637 P04637 A0A087WT22 P04637 P04637 A0A0U1RQC9 A0A087 A0A087 P04637 P04637 A0A087WZU8 J3KP33 P04637 P04637 E7ESS1 P04637	2
AHSNPDFLPVDNC*LQSVLGQR	C798 C703 C798 C703 C798 C703 C798 C703 C798 C703 C798 C703	2.433087273	Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9 Q5VSL9	3
IVGYFVSGC*DPSIMGIGVPAISGALKK	C284 C287	2.4329	A0A0B4J2A4 P42765	2
SNLPNC*ANSDTDFMGLFK	C1384 C976	2.43276	A0A0J9YWLO Q9Y4K1	2
IAILTC*PFEPKPK	C253 C215 C232	2.4317025	P48643 B7ZAR1 E9PCA1	3
C*HDYTTTEFLYNLYSSEGK	C630 C630 C630 C630 C630 C630 C630	2.429975714	P17858 P17858 P17858 P17858 P17858 P17858 P17858	3
NC*DKGQSFIDAPDSPATLAYR	C277 C266 C277 C266	2.42817	P53384 P53384 P53384 P53384	2
WLSDEC*TNAVVNFLSR	C350 C380 C345 C350 C380 C345	2.425973333	A0A0C4DGA2 O75521 O75521 A0A0C4DGA2 O75521 O75521	3
SLHDALC*VVKR	C397 C397	2.424573333	P17987 E7ERF2	2
KEGGGGISCVLQDGC*VFEK	C198 C198 C198 C198	2.42335	P36551 P36551 P36551 P36551	2
ILQMEEYIQQLC*EDIQLKPDVVITEK	C279 C241 C234 C279 C241 C234	2.41897	P49368 P49368 B4DUR8 P49368 P49368 B4DUR8	2
NDITAWQEC*VNNSMAQLEHQAVR	C106 C106	2.416255714	O75934 O75934	2
QALVEFEDVLGAC*NAVNYAADNQIYIAGHPAFV NYSTSQK	C92 C151 C92 C151 C92 C151	2.4161875	P14866 P14866 P14866	2
DLGGIVLANACGPC*IGQWDRK	C451	2.415955	Q99798	3
SDPDAC*PTMPLLAMLLR	C199 C210 C199 C210	2.414186667	I3L2C7 P57678 I3L2C7 P57678	2
C*ALMEALVLISNQFK	C646 C646 C646	2.413546667	Q9HAV4 Q9HAV4 Q9HAV4	2

LTIIVSDPSHC*NVLR	C87 C87 C87 C87	2.4108425	P78346 P78346 P78346 P78346	3
C*ASQAGMTAYGTR	C173 C173	2.408572	Q15417 Q15417	2
FSIQTMC*PIEGEgniar	C205 C205	2.408368333	Q13155 Q13155	3
VLQFNEVGANAVTPMPENFTSC*GFMQQIQK	C79 C79 C79 C79 C79 C79 C79 C79 C79	2.406823333	E7ERB5 E7EPJ9 E9PDK7 P05120 E7ERB5 E7EPJ9 E9PDK7 P05120 P05120	2
FDDLQFFENC*GGGSFGSVYR	C22 C22	2.404812	Q9NYL2 Q9NYL2	2
DIDFLKEEEHDC*FLEEIMTK	C173 C173 C173 C173 C173	2.403921111	P12268 P12268 P12268 P12268 P12268	3
VANC*SLGTATIISENLNNEVMMK	C521 C558 C410 C410 C1192	2.40364	Q6WKZ4 Q6WKZ4 Q6WKZ4 Q6WKZ4	2
IC*PVETLVEEAIQCAEK	C213	2.40054	P30084	2
YQEAAPNVANNTGPHAASC*FGAK	C564 C295 C517 C564 C618 C618 C517 C618 C295 C564 C618 C295 C517 C517 C517 C295 C295 C564 C618 C517 C295 C618 C517 C564 C564 C618 C517 C295 C564 C564 C618 C618 C295 C564 C517 C564 C618 C618 C517 C618 C564 C618 C517 C517 C517 C564 C618 C517 C618 C517 C564 C564 C618 C517 C564 C564 C618 C618	2.396714	O60716 O60716 O60716 O60716 O60716 C9JZR2 O60716	2
KVIEINPYLLGTMAGGAADC*SFWER	C111 C111 C111 C111 C111	2.394815333	P28074 P28074 P28074 P28074 P28074	3
QSLRFC*PK	C27 C27 C27 C27 C27 C27 C27	2.3946525	Q56VL3 Q56VL3 Q56VL3 D6RD77 Q56VL3 J3KPI9 Q56VL3	3
IHC*LENVDK	C112 C112 C112 C99 C112 C112 C112 C99 C115 C115	2.390455	Q01082 A0A087WUZ3 Q01082 Q01082 Q01082 A0A087WUZ3 Q01082 Q01082 O15020 O15020	2
MRECISIHVGQAGVQIGNAC*WELYCLEHGQIPD GQMPSDK	C20 C20 C20 C20 C20 C20 C20	2.388459487	Q9BQE3 P68363 Q71U36 Q13748 P68363 Q71U36 Q13748	3
VILITPTPLC*ETAWEEQCIQGCK	C24 C117 C137 C24 C117 C137 C24 C117 C137 C24 C117 C137 C24 C117 C137	2.388393333	Q2TAA2 H7C5G1 Q2TAA2 Q2TAA2 H7C5G1 Q2TAA2 Q2TAA2 H7C5G1 Q2TAA2 Q2TAA2 H7C5G1 Q2TAA2 Q2TAA2 H7C5G1 Q2TAA2	3
HNTNTATPFC*NR	C849 C814 C849 C814	2.3854	Q8NDI1 Q8NDI1 Q8NDI1 Q8NDI1	2
SFGVQPC*VSTVLVEPAR	C592 C592	2.381425	Q8TB52 Q8TB52	2
HTEVPTGTC*PVDPFQAQWAALENK	C454 C465 C563 C467 C309 C600 C611 C405 C416 C552	2.38104875	P49757 P49757 P49757 G3V3Z8 P49757 P49757 P49757 P49757 P49757 P49757	3
SEAQHEQPEDGC*PFGALTQR	C255 C255	2.380965	O75528 O75528	2
TTSSANNPNLMYQDEC*DR	C507 C507 C586 C584 C505 C507 C507 C586 C584 C505 C507 C507 C586 C584 C505	2.380912	Q92841 Q92841 H3BLZ8 Q92841 Q92841 Q92841 Q92841 H3BLZ8 Q92841 Q92841 Q92841 Q92841 H3BLZ8 Q92841 Q92841	3

AC*DLPAWVHFPDTER	C181 C153 C181 C123 C181 C181 C153 C181 C123 C181 C181 C153 C181 C123 C181 C181 C123 C181	2.37958	A0A087 A0FGR8 A0FGR8 A0FGR8 A0A087 A0FGR8 A0FGR8 A0FGR8 A0A087 A0FGR8 A0FGR8 A0FGR8 A0A087 A0FGR8	3
C*YQLPPGAR	C252 C223 C252 C223	2.37576	P13716 P13716 P13716 P13716	2
SELEC*VTNITLANVIR	C27 C27	2.371366667	Q9Y6W5 Q9Y6W5	2
SFEC*LLGLNSNIGIR	C88 C39 C88 C88 C39 C88	2.36987	H3BTQ7 H3BT22 Q9Y5N6 H3BTQ7 H3BT22 Q9Y5N6	2
MFHPNVYADGSIC*LDILQNR	C88 C88 C55	2.3687	P49459 A0A0D9SEZ6 A0A0D9SG71	2
AEVLIVGPEDC*VVPFLTRPK	C38 C38	2.36626	P56192 P56192	2
AAVEEGIVLGGGC*ALLR	C442	2.36531697	P10809	3
LISPNLGVVFFNAC*EAASR	C342 C316 C342 C316 C342 C316 C342 C316	2.363145	Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74	2
ETCLITFLAGIEC*PR	C560 C560	2.360495	Q7KZF4 Q7KZF4	2
SFFTASEGC*SNPLGGGR	C188 C188 C188 C188	2.358463333	Q9UKV8 Q9UKV8 Q9UKV8 Q9UKV8	2
QC*EGITSPGSK	C238 C238 C51 C238 C238 C51	2.3551	Q9Y570 Q9Y570 Q9Y570 Q9Y570 Q9Y570 Q9Y570	3
EC*EHCDLQGFQLTHSLGGGTGSGMGTLISK	C87 C124 C124	2.35433	K7ESM5 Q9BUF5 Q9BUF5	3
LILDVFC*GSMHFVR	C446 C476 C492	2.353725	P11413 P11413 P11413	2
GVDSTLKIQAELGDSAMYLC*ASSLA	C111	2.35257	A0A0K0K1C0	2
EYTEENIQLVADGCC*NLQK	C779 C780 C714	2.35164	Q6UB35 B7ZM99 A0A087WVM4	2
NEANQPLC*LPALLIYTEASDYIPDDHQDYAEALIN PIK	C834 C767	2.3483575	Q01970 Q01970	2
SIQTIC*SGLLTDVEDQAAK	C10 C280 C280 C10 C280 C280 C10 C280 C280	2.34746	Q6PCB5 Q6PCB5 A0A087 Q6PCB5 Q6PCB5 A0A087 Q6PCB5 Q6PCB5 A0A087	3
ISPVDVNSRPSSC*LTNFFLNGR	C53 C248 C349 C53 C248 C349 C53 C248 C349	2.340805556	H0YH12 Q9NVM9 Q9NVM9 H0YH12 Q9NVM9 Q9NVM9 H0YH12 Q9NVM9 Q9NVM9	3
QEVVEKEYIYGSDVDC*LPSCQLEVLQYQK	C285	2.33906	Q9BZD4	2
LVC*PAAYGEPLQAAASALGAAVR	C110 C110	2.33715	P23610 P23610	2
VAHALAEGLVIAIC*IGEK	C127 C164 C127 C164 C127 C164	2.33661	P60174 P60174 P60174 P60174 P60174 P60174	3
ERYSYVC*PDLVK	C235	2.33561	P61158	3
FLGPEIFFHPEFANPDFTPQPISEVVDEVIQNC*PIDV R	C307 C307 C256	2.335085714	P61158 P61158	3
VVFIKPTC*PYCR	C23	2.333458571	P35754	3
SFNIVDIKPANMEELTEVITAAEFHPNSC*NTFVYS SSK	C239 C249	2.333356	P63151 P63151	2
AFVNPFPDYAAAAGALLASGAAEETGC*VRPPATT DEPGLPFHQDGK	C49	2.33322	Q9NS86	2
WNDNC*PSWNTIDPEER	C301 C301 C301 C301	2.332424444	P17655 P17655 P17655 P17655	2
ENFDEVVNDADIILVEFYAPWC*GHCK	C206 C206	2.331781538	P13667 P13667	3
VVMALGDYMGASCHAC*IGGTNVR	C134 C134 C134 C134	2.330125882	P60842 J3KT12 P60842 P60842	3
IYLCDIGIPQQVFQEVGINYHSPFGC*K	C499 C499	2.32991	Q96F86 Q96F86	2
LTWHSC*PEDEAQ	C177 C177 C177	2.327866667	Q13185 Q13185 Q13185	3

ALANVNIAGSLIC*NVGAGGPAPAAGAAPAGGPAP STAAAPAEK	C36 C61 C36 C61 C36 C61	2.32616	P05386 P05386 P05386 P05386 P05386 P05386	2
DGPC*IYNNLEFGIDLDR	C411 C411	2.319744286	Q9UG63 Q9UG63	2
TSGSEDDNAEQAELEPGWVVDQPDAAC*HLQ QQQEPLPPGWEER	C192 C601 C182	2.31401	P46934 P46934	2
STC*SLTPALAAHFSENLIK	C508 C553 C508 C553	2.310357778	Q9BTA9 Q9BTA9 Q9BTA9 Q9BTA9	3
MKLTVIDTPGFGDHINNENC*WQ	C357 C211 C356 C368 C375	2.309986667	Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8 Q9UHD8	2
LLDLVQQSC*NYK	C30 C34 C30 C34 C30 C34	2.3067725	P55769 B1AHD1 P55769 B1AHD1 P55769 B1AHD1	3
VGLGIC*YDMR	C153 C153	2.3046575	Q9NQR4 Q9NQR4	2
GMGESC*FEDLLPWLMTLTYEQSSVDR	C1692	2.304438889	Q92616	2
VVNIEGVDSNMCC*GTHVSNLSDLQVIK	C323 C384 C210 C293	2.299213333	Q9BTE6 Q9BTE6 Q9BTE6 C9J5N1	2
LELYGAC*VEEAGALTGGPK	C149 C186 C199 C149 C186 C199	2.295076667	Q9BST9 Q9BST9 Q9BST9 Q9BST9 Q9BST9 Q9BST9	2
VLLSIC*SLLCDPNPDDPLVPEIAR	C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 C78 C108 C78 C107 C107 C107 C78 C107 C109 C101	2.293055	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	3
IAVYSC*PFDGMITETK	C244 C244 C225	2.290136842	P50990 P50990 P50990	3
VSC*AGQMELVQPLGYFGAAVAEPDHLR	C23 C23 C23 C23 C23 C23	2.289895714	Q9UNI6 Q9UNI6 Q9UNI6 V9GY92 Q9UNI6 Q9UNI6	3
SLHDALC*VLAQTVK	C395 C395 C395	2.289616842	P78371 P78371 P78371	3
FLENTPSSLNIEDIEDLFLAQYYC*SK	C283 C146 C283 C283 C146 C283 C283 C146 C283 C283 C146 C283	2.284775217	Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8 Q9NUY8 E9PGE5 Q9NUY8	3
VIIVQAC*R	C328 C258 C258 C257 C315 C173 C202 C211 C245 C328 C258 C258 C257 C315 C173 C202 C211 C245	2.283065	P51878 P49662 P49662 P51878 P51878 P51878 P49662 A0A087WZP8 P51878 P51878 P49662 P49662 P51878 P51878 P51878 P49662 A0A087WZP8 P51878	2
DVIELTDDSFDKNVLDSEVWMMVEFYAPWC*GH CK	C190 C238 C242 C195 C187 C190 C238 C242 C195 C187 C190 C238 C242 C195 C187 C190 C238 C242 C195 C187	2.280671905	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	3
ENPDLAC*LQSIIFDEERSPEEQAK	C63 C63 C63 C63	2.279266	O95801 O95801 O95801 O95801	3
SNPENNVGLITLANDC*EVLTLTPDTGR	C58 C43 C58 C58 C58 C43 C58 C58	2.277845	P55036 P55036 Q5VWC4 P55036 P55036 Q5VWC4	2
SSGGFWAC*K	C308 C256 C308 C256	2.272715	P48735 P48735 P48735 P48735	2
FVVDVDKNIDINDVTPNC*R	C112 C104 C112 C104 C112 C104 C104 C112 C104 C104	2.26884	P62195 P62195 P62195 P62195 P62195 J3QSA9 P62195 P62195 J3QSA9 P62195	2
YQAEINDLENLGMGSGTC*GQVWK	C174 C131 C147 C174 C131 C147 C174 C131 C147	2.2674075	O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733 O14733	3
LKNCGC*LGASPNLEQLQEENLK	C34	2.266232	P54136	3

MAAISESNINLC*GSHCGVSIGEDGPSQMALEDLA MFR	C413 C413	2.262496667	P29401 P29401	2
VGSFC*LSEAGAGSDSFALK	C73 C175 C73	2.2581375	P45954 P45954 P45954	2
STLTDSLVC*K	C41 C41 C41	2.25674	P13639 P13639 P13639	3
VLLSICSLLC*DPNPDDPLVPEIAR	C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105	2.25568	D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY85 P62837 P62837 P61077 A0A0A0MQU3 D6RAH7 P61077 P61077 H9KV45	3
VGVGTC*GIADKPMQYQDTSK	C214	2.250834286	O75940	2
AWVWNTHADFADEC*PKPELLAIR	C209 C82 C132 C132 C132 C82 C209 C82 C132 C132 C132 C82	2.24981625	F6WQW2 P43487 P43487 C9JJ34 C9JGV6 F6WQW2 P43487 P43487 C9JJ34 C9JGV6	3
AAHTEDINAC*TLTSPR	C657 C637 C657 C637	2.24954	P04049 P04049 P04049 P04049	2
KAHEILPNLVCC*SAK	C149	2.247105556	P50990	3
C*WIFSCLVNMR	C73 C73	2.246218	Q13867 Q13867	3
FIC*TTSIQNR	C20	2.24285	P53396	3
QIHEGASLPFFEVFDAPLHVC*EQR	C165	2.241953333	O43252	3
TMHLLLEVEVIEGLQC*PESGR	C100 C95 C100 C95	2.237988182	Q9UI30 Q9UI30 Q9UI30 Q9UI30	3
YDSYESC*DSR	C128 C67 C147 C128 C94 C117 C66	2.237676667	M0R010 V9GZ50 M0QYT7 M0R1Y5	2
HFLIEC*TPK	C1001 C1241 C1001 C1241	2.23541	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	2
KYDGYTSC*PLVTGYNR	C379	2.234032	Q9Y6N5	2
RPYEDQGLGETTPLTIIC*QPMQPLR	C367 C367 C367	2.23169	Q8TF42 Q8TF42 Q8TF42	3
NVLLSAGC*DNVVLWNVGTAELYR	C153 C153 C153	2.22884	Q9BR76 F5H390 A0A087WW53	2
FVESILSNNTTDDHC*QEFVNQK	C790 C790 C790 C790 C790 C790	2.22813	Q7Z6Z7 Q7Z6Z7 Q7Z6Z7 Q7Z6Z7 Q7Z6Z7 Q7Z6Z7	2
ELDSLNNC*LGDAGILQLVESVR	C409 C409 C409	2.22657	P13489 P13489 P13489	3
VTDGALVVVDCVSGVC*VQTETVLR	C136 C136 C136 C136 C136 C136 C136 C136 C136	2.22582075	P13639 P13639 P13639 P13639 P13639 P13639 P13639 P13639 P13639	3
FTTEIHPSC*VTR	C612 C612	2.223526	P29317 P29317	2
NVQLLSQFVSPFTGC*IYGR	C90 C90 C90	2.21953	Q9Y3D5 Q9Y3D5 Q9Y3D5	2
NPSGSGPPLSIEDLGLNFQFC*PSSR	C2419 C2415 C2419 C2415	2.21819	A0A087 Q9ULT8 A0A087 Q9ULT8	2
LC*DFGISGQLVDSIAK	C246 C246 C257	2.21505	P45985 P45985 P45985	3
C*DQDAQNPLSAGLQGLMETVELLQAK	C240 C245 C124 C242 C240 C240 C245 C242 C240	2.214300833	F8W1I6 Q13561 H0YI98 Q13561 Q13561 F8W1I6 Q13561 Q13561 Q13561	3
SCYDLSC*HAR	C471 C471	2.212935	P41250 P41250	2
C*GAETQHEGLELR	C128 C128	2.21241	Q9HCU5 B5MC98	2

LEFSIYPAPQVSTAVVEPYNSILTTHTTLEHSDFCAF MVDNEAIYDIC*R	C213 C213 C213 C213	2.2104575	Q9BQE3 P68363 Q71U36 P68366	2
VSLDPELEEALTSASDELTC*DLAAILGMHNLITNT K	C132	2.210031379	Q9NYL9	3
LPACVVDC*GTGYTK	C12	2.209993333	P61158	2
HDVNC*EVVAVSVDSHFSLAWINTPR	C127 C127	2.203946667	P30048 P30048	2
ALVPLGIGIATGEQC*HNR	C307 C307	2.202305	Q7L5Y1 Q7L5Y1	2
DQECTIPICEGPDACQKDEVK*VK	C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69	2.200833333	Q14162 Q14162 Q14162 A0A0A0MR54 Q14162 Q14162 Q14162 Q14162 Q14162 A0A0A0MR54 Q14162 Q14162	3
AGGLGINLTSANVVILHDIDC*NPYNDK	C953 C951 C953 C521 C951	2.20051	Q9H4L7 Q9H4L7 Q9H4L7 Q9H4L7 Q9H4L7	3
LTEGC*SFR	C77 C77 C93 C77 C77 C93	2.200265	P42677 Q71UM5 HOYMV8 P42677 Q71UM5 HOYMV8	2
NAIQLLASFLANNPFSC*K	C439 C439 C439	2.199961429	Q15021 Q15021 Q15021	2
HELQANC*YEEVKDR	C122 C139 C177 C139	2.19551	G3V1A4 P23528 E9PK25 E9PP50	3
FALNHPELVEGLVLINVDPC*AK	C71 C166 C154 C166 C71 C166 C154 C166 C71 C166 C154 C166 C166 C154 C166	2.195398333	F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30	3
AFQNTATAC*APVSHYR	C51 C51	2.19421	Q9H814 Q9H814	2
GYNYATC*LEGALK	C553	2.18966	O94808	2
YFNPTGAHASGC*IGEDPQGIPNNLMPYVSQVAI GR	C196	2.189505	Q14376	2
DQVAQLDDIVDISDEISPSVDDLALSIYPPMC*HLT VR	C172 C300	2.188552	O95273 O95273	2
LSDGQNIYNAC*CTLR	C250 C250 C281 C250 C250	2.187874	P26599 P26599 A0A0U1RRM4 P26599 P26599	3
HSTSETEQLLC*GRPPDLTALSR	C420	2.18671	Q96R06	2
SLPGPAPC*LK	C107 C26 C78 C107 C26 C78	2.183515	Q01433 Q01433 HOY360 Q01433 Q01433 HOY360	2
FQSSAVMALQEACEAYLVGLFEDTNLC*AIHAK	C111 C111	2.18338	P68431 P68431	3
ESSYAC*YYDEKR	C219 C219 C219	2.181088571	Q99538 Q99538 Q99538	2
TMC*PLLSMKPGEYSYFSPR	C407 C418	2.177177143	E9PHA2 Q15003	2
GLTDLSAC*K	C142 C142 C142	2.17619	O00567 O00567 O00567	3
TDPSEQVEGNC*EIVNELIAASTQK	C612	2.176076667	Q8NEM2	2
SAQGC*DLLQNLQNTQGAK	C302 C302	2.17465	Q9UK39 Q9UK39	2
C*ALGWDHQEK	C246 C246 C246 C246 C246 C246	2.17318	Q14247 Q14247 Q14247 Q14247 Q14247 Q14247	2
DAVLPEQSPGDFDFNEFFNLDKVP*LASMIEDVL GEGSVASR	C318 C155 C318 C318 C318 C155 C318 C318 C318 C155 C318 C318 C318 C155 C318 C318	2.17231375	Q9NRA8 Q9NRA8 B1AKL4 Q9NRA8 Q9NRA8 Q9NRA8 B1AKL4 Q9NRA8 Q9NRA8 Q9NRA8 B1AKL4 Q9NRA8 Q9NRA8 Q9NRA8 B1AKL4 Q9NRA8	3
AKLTPGC*EAEAEATEAICFFVQQTDMEHNR	C2359 C2359	2.171251154	P49327 P49327	3
DLSYC*LSGMYDHR	C267 C267	2.171121429	P52597 P52597	2
VVYGGGAAEISC*ALAVSQEADKPTLEQYAMR	C429 C391 C408 C391 C408 C429 C391 C408	2.171036667	P48643 B7ZAR1 E9PCA1 B7ZAR1 E9PCA1 P48643 B7ZAR1 E9PCA1	3
MSPLSIVTALVDKIDMC*K	C95 C164 C122 C155 C95 C164 C122	2.170514286	Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305 Q9Y305	3

VLGLGLGC*LR	C88 C75 C88 C75 C88 C75	2.16449	Q9BRJ7 K7EIN2 Q9BRJ7 K7EIN2 Q9BRJ7 K7EIN2	2
IEC*SDNGDGTCSVSYLPTKPGYFVNILFEVHIPG SPFK	C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087 C1087	2.1619725	O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369 O75369	3
SESC*DC*LQGFQLTHSLGGGTGSGMGTLISK	C127 C129 C127 C129 C127 C129 C127 C129	2.160778571	Q9BVA1 Q13885 Q9BVA1 Q13885	3
GIGMNEPLVDC*EGYPR	C59 C59 C59 C59 C59 C59	2.159623636	O00233 J3KN29 O00233 F5H5V4	3
KC*PFTGNVSIR	C60	2.15924	P62280	2
TEDSLEGC*LDCLLQALQNNNTETSEK	C27 C26	2.158875	P52306 P52306	2
LLVPC*ALDPPNPNCYVASCASKPEVTVR	C432 C432	2.15759	Q9UBT2 Q9UBT2	2
C*VDEVAFQEEVAVLKK	C48 C48	2.156846667	C9JTT7 P35249 C9JZ1 C9JG5 F8WE44 C9J8M3 P35249 C9JTT7 P35249 C9JZ1 C9JG5 F8WE44 C9J8M3 P35249 C9JTT7 P35249 C9JZ1 C9J8M3 P35249	3
VVTSEALC*GVPVLVLANQDQVETCLSIDIK	C78 C125 C125	2.155756667	Q13795 Q13795 Q13795	2
QQLPQTTPPSC*LK	C577 C577	2.15497	Q8IY81 Q8IY81	2
LYYFQYPC*YQEGLR	C130 C130	2.152877778	Q9NRW3 Q9NRW3	3
LPPIYPNAPC*FNNVAEYESFLR	C52 C52	2.15172	P83369 P83369	2
LASGC*DGSEIPDEVK	C525 C506 C525 C506	2.15162	Q9UEW8 Q9UEW8 Q9UEW8 Q9UEW8	2
ETVYC*LNDDDETEVLKEDIQGF	C296 C296 C296 C296 C296	2.151304	P13010 P13010 P13010 P13010 P13010	3
VQENSAYIC*SR	C585	2.14881	Q9Y3T9	2
SFC*SQFLPEEQAEIDQLFDALSSDKNSPNVSSK	C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13 C13	2.148016667	H3BPI4 H3BQ13 H3BM75 H3BTC5 H3BUB0 Q6P9B6 H3BPI4 H3BQ13 H3BM75 H3BTC5 H3BUB0 Q6P9B6 Q6P9B6	3
RSDLQDELINELPNC*K	C566 C549 C566 C549	2.14538	Q8TF05 Q8TF05 Q8TF05 Q8TF05	2
NLEAVETLGSTSTIC*SDK	C343 C374 C374 C382	2.14466	P05023 P05023 P05023 Q13733	2
HLGGIPWYAEDAAPTTLTPC*R	C268 C268 C268	2.1444	P31930 P31930 P31930	3
VVSGMVNC*NDDQGVLLGR	C230 C230 C230 C230	2.144347391	P21980 P21980 P21980 P21980	3
TDLVPAFQNLKDC*EAEVR	C294 C294 C294	2.14325	P30153 P30153 P30153	3
WHLC*PTLYESR	C263 C222 C264 C263 C222 C264 C263 C222 C264	2.1428175	Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3 Q9H3H3	3
VTFSC*AAGFGQR	C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118	2.13956	Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203	3
STPYEC*GFDPMSPAR	C39 C39 C39	2.138828	P03897 P03897 P03897	3
SDITKLEVDIAVNAANSSLLGGGGVDGC*IHR	C186 C186	2.137976471	Q9BQ69 Q9BQ69	3
VICAEEPIC*KDFPETNNILK	C456	2.137558	P49915	2
LEFSIYPAPQVSTAVVEPYNSILTHTTLEHSDC*AF MVDNEAIYDICR	C200 C200 C200 C200 C200 C200	2.136933636	Q9BQE3 Q9BQE3 Q9BQE3 P68363 P68363 P68363 Q71U36	2

	C200 C200 C200 C200 C200 C200 C200 C200 C200		Q71U36 Q71U36 P68366 P68366 P68366 Q71U36 Q9BQE3 P68366	
C*YSAEVTLWYRPPDVLFGAK	C157	2.136405	Q00535	2
C*VLNWFWDWSTEALYQVGKFTSK	C3089 C3089 C3089 C3089	2.13321625	Q14204 Q14204 Q14204 Q14204	3
SVPTTQC*LDNSK	C226 C226	2.13168	A0A087WV66 P46013	3
C*MQLTDFILK	C54 C54	2.131327	E7EPB3 P50914	3
EFESC*IQYYLENNWLQHEK	C356 C322 C315	2.125403333	P51398 P51398 P51398	2
IYFGSNIPNMFVDSSC*ALK	C310	2.12445	O75477	2
MDILDVLTAAQELSRPGC*LGR	C628 C628 C628 C628	2.12335875	Q9Y4R8 Q9Y4R8 Q9Y4R8 Q9Y4R8	3
VSMILQSPAFC*EELESMIQEQFKK	C68 C68	2.123196364	P35611 E7EV99 P35611 E7ENYO P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENYO P35611 P35611 P35611 P35611 P35611 E7EV99 P35611 E7ENYO P35611 P35611 P35611 P35611	3
INPIC*NDHYR	C70 C70	2.116303333	Q96KB5 Q96KB5	2
GDLNDCFIPC*TPK	C147 C203 C147	2.11583	P11586 F5H2F4 P11586	2
ITSAVWGPLGEC*IIAGHESGELNQYSAK	C160 C160	2.10932	Q13347 Q13347	2
VFDPSC*GLPYYNADTDLVSWLSPHDPNSVVTK	C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 C49 C60 C60 C60 C60 C60 C60 C60 C49 C60 C60	2.109208333	O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828 O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828 O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828 O60828 O60828 O60828 O60828 O60828 H7C053 C9JQA1 O60828	3
ENFSLDWC*K	C117 C117	2.104565	P23919 P23919	2
EC*PTVAPAHSLTK	C577 C577 C577 C565 C577 C577	2.10375	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0	2
DASALLDPMEC*TDTAEQR	C287 C287 C287 C287	2.101103056	Q9BTE3 Q9BTE3 Q9BTE3 Q9BTE3	3
AAAGEDYKADC*PPGNPAPTSNHGPDATAEEDF VDPWTVQTSSAK	C62	2.10012	P23381	2
VVLLGEFLHPC*EDDIVCK	C80 C80 C80 C80	2.09883	Q9NY12 Q9NY12 Q9NY12 Q9NY12	2
LDTNSDGQLDFSEFLNLIGGLAMAC*HDSFLK	C91	2.096700909	P31949	3
VVQMEQELQDLQSLC*AEQAQQQAR	C300 C300 C90 C300 C300 C90	2.094026667	O76064 O76064 H7C4L7 O76064 O76064 H7C4L7	2
TPDTSTYC*YETAEK	C2041	2.09335	P46821	2
CDQDAQNPLSAGLQGAC*LMETVELLQAK	C256 C261 C140 C258 C256	2.092472222	F8W1I6 Q13561 H0YI98 Q13561 Q13561	3
IHEDIFDIIDREADGSDSLEGFVLC*HSIAGGTGSGL GSYLLER	C138	2.090056667	P23258	3
ALADAQIPYSAVDQACVGYVFGDSTC*GQR	C71 C71 C71	2.088392857	P22307 E9PLD1 P22307	2
SDVC*TPGGTTIYGLHALEQGGLR	C235 C247	2.082555	Q53H96 A0A0A0MQS1	2
EC*ISIHVGQAGVQIGNACWELYCLEHGIQPDGQ MPSDK	C4 C4 C4 C4	2.081385	Q9BQE3 P68363 Q71U36 Q13748	3
ADELLC*WEDSAGHWLYE	C74 C158 C74 C158 C74 C158	2.080806667	H3BPR2 Q13232 H3BPR2 Q13232 H3BPR2 Q13232	2
SCFLCMVC*K	C40 C40	2.079855	P21291 P21291	2
SAVLQPGC*PSVGIPHSGYVNAQLEK	C22 C22	2.07761	Q9P253 Q9P253	2

VGLPIQGQGGFGC*IYLADMNSSESVGSDAPCVVK VEPSDNGPLFTELK	C50	2.0758925	Q99986	2
HSVTGYGDC*AVGAR	C270	2.07496	Q96F1	2
TLAPSLPC*PGGR	C144 C144	2.074515	Q9P291 A0A087WTL2	2
IYHPNVDENGQICLPIISSENWKPC*TK	C98 C98 C98	2.072583333	O14933 O14933 O14933	3
GLC*GAIHSSIAK	C103 C103 C103 C103	2.071855	P36542 P36542 P36542 P36542	2
HISPTAPDTLGC*YPFYK	C419 C384 C419 C384	2.071333333	A0A087WWF6 P49005 A0A087WWF6 P49005	2
IIDLEEADEIEDIQEITVLSQC*DSPYVTK	C89 C77 C77 C89 C77 C77 C89 C77 C77 C89 C77 C77	2.06843	Q9Y6E0 B4DR80 Q9Y6E0 Q9Y6E0 B4DR80 Q9Y6E0 Q9Y6E0 B4DR80 Q9Y6E0 Q9Y6E0 B4DR80 Q9Y6E0	3
C*ASQSGMTAYGTR	C164	2.067936667	B4DDF4	2
AILQQLGLNSTC*DDSILVK	C813 C812 C801 C817	2.066116667	P19367 P19367 P19367 P19367	2
SDQGVGPGGTGGSGSPNDPVTNIC*QAADK	C150 C340 C340 C150 C340 C340	2.0661	A0A0G2JKR7 P28702 P28702 A0A0G2JKR7 P28702 P28702	2
GTWEELCNSC*EMENEVLK	C652 C652 C652 C652	2.065561429	O95573 O95573 O95573 O95573	3
LMDLDVEQLGIPEQEYSC*VVK	C135 C135	2.059835	P12004 P12004	2
EMDSC*PVVGEFPCQNDINLSQAPALPQPEVIQN MTEFKR	C966	2.05943	P14735	2
TWYVQATC*ATQGTGLYDGLDWSHELK	C159	2.05929875	P84085	2
C*ASQVGMTAPGTR	C204 C204	2.0576	B4DDF4 B4DDF4	2
SFC*PGGTDSVSPPPSVITQENLGR	C314	2.05373	Q9C0C9	2
TC*ATDLQTK	C42 C42 C42 C42 C42 C42 C42 C42 C42 C42 C42 C42 C42 C42	2.05338	O95861 O95861 F8VZG4 F8W1J0 A6NF51 F8VWV8 O95861 O95861 O95861 F8VZG4 F8W1J0 A6NF51 F8VWV8 O95861	2
ANC*DASLIVTEELHLITFETEYVHQGLK	C426 C426	2.05334	P40763 P40763	2
SAC*GNCYLGDAFR	C274 C274	2.050235	Q6F181 Q6F181	2
GVLlyGPPGC*AK	C509 C509 C509	2.047685	Q9BVQ7 Q9BVQ7 Q9BVQ7	2
QQYLC*QPLLDVLANIR	C552 C507 C578 C618 C552 C507 C578 C618 C552 C507 C578 C618	2.046563333	G3V1P5 Q96RN5 Q96RN5 Q96RN5 G3V1P5 Q96RN5 Q96RN5 Q96RN5 G3V1P5 Q96RN5 Q96RN5 Q96RN5	2
LTALDYHNPAGFNC*KDETEFR	C19 C19	2.042758333	Q9Y224 Q9Y224	3
VC*ISILHAPGDDPMGYESSAER	C89 C61	2.029626	P60604 P60604	2
YSTGSDSASFPHHTPSMC*LNPDLGPPLEAYTIQG QYAIQPDLTK	C213 C217	2.024518182	Q15366 Q15366	3
GEETPVIVGSALC*ALEGRDPELGLK	C222 C222 C222 C222	2.021162857	P49411 P49411 P49411 P49411	3
EGPTALQDSNSGEPDIPPPQDC*GDFR	C125 C71 C125 C71	2.01979	Q9BWU0 A0A087 Q9BWU0 A0A087	2
TGC*TFPEKPDFH	C353 C336 C353 C336 C353 C318 C336	2.01956	P55263 P55263 P55263 P55263 P55263 P55263 P55263	2
QLFALSC*TAEEQGVLPDDLGSVIR	C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60	2.019046364	P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899	2
NVTQIEPFC*LETDRR	C594 C630	2.01633	Q9ULW0 Q9ULW0	2
LDVGNFSWGSECC*TR	C72	2.016048571	P62241	3

SNELGDVGVHC*VLQGLQTPSCK	C75 C75	2.015004	P13489 P13489	2
ILGLQVQQAHC*SIQDAQAAMR	C210 C382 C210	2.012492	Q9GZR2 Q9GZR2 A0A0C4DG31	2
HC*NLGDELLECLSWR	C120 C120 C120	2.011306667	A6NDU8 A6NDU8 A6NDU8	3
HPSAVTAC*NLDLENLITDSNR	C325 C325	2.01092	Q9UBF2 Q9UBF2	3
LDVGNFWSGSEC*CTRK	C71	2.003656667	P62241	3
KNDFYSYEPPSENPPPETGESVC*LQK	C125 C125 C125 C92 C92 C125 C125 C92 C125 C125 C125 C92 C92 C125 C125 C92	2.002135	A0A087WYJ3 Q16342 F5H4V9 Q16342 Q16342 J3QK82 Q16342 Q16342 A0A087WYJ3 Q16342 F5H4V9 Q16342 Q16342 J3QK82 Q16342 Q16342	2
C*WDPSPQAYFTLPR	C348 C354 C32 C348 C354 C32 C348 C354 C32	2.001545	I3L2N2 O14641 I3L0Z8 I3L2N2 O14641 I3L0Z8 I3L2N2 O14641 I3L0Z8	3
LGTLAPFC*CPWEQLTQDWESR	C705 C705	2.00079	Q99575 Q99575	2
AFQHLSEAVQAAEEEAQPPSWSC*GPAAGVIDAY MTLADFCQQLR	C3403 C3403	1.998264	P78527 P78527	3
NC*GCLGASPNEQLQEENLK	C32 C32 C32 C32 C32	1.996588	P54136 P54136 P54136 P54136 P54136	3
MC*LFAGFQR	C594 C575	1.995656667	Q00839 Q00839	2
ISGADINSIC*QESGMLAVR	C379 C348 C379 C348 C379 C348	1.98617	P43686 P43686 P43686 P43686 P43686 P43686	3
ETARPCYSLAQLLQSFEDLPLC*SILQQIQEK	C109 C109 C29 C109 C109 C29	1.9853	Q9BQG0 Q9BQG0 I3L1L3 Q9BQG0 Q9BQG0 I3L1L3	2
HEFSVDMTC*GGCAEAVSR	C12 C12	1.984227	O00244 O00244	2
ADASSTPSFQQAFASSC*TISSNGPGQR	C688 C928 C688 C928	1.984083333	Q68CZ2 Q68CZ2 Q68CZ2 Q68CZ2	2
TPC*SSLLPLLNHAATSGK	C367 C375 C397	1.982366667	Q9NUQ6 Q9NUQ6 Q9NUQ6	2
QFC*STQAALQAMER	C961 C961 C961 C961 C961 C961 C961 C961 C961	1.98103	Q14980 Q14980 A0A087WY61 Q14980 Q14980 Q14980 Q14980 A0A087WY61 Q14980	3
LSDFGLC*TGLK	C234 C235 C142 C194 C43 C234 C234	1.980301667	Q15208 Q9Y2H1 Q9Y2H1 F5H277 H0YGN4 Q15208 Q15208	3
C*SHQQSPYQLLFEPYIFEELLSLK	C244 C289 C289 C244 C289 C289	1.97711	Q96GJ1 Q96GJ1 Q96GJ1 Q96GJ1 Q96GJ1 Q96GJ1	2
NFNYHILSPC*DLSNYTDLAMSTVK	C461 C498 C461 C498 C461 C498 C461 C498	1.97345	G5E9W3 Q9UKF6 G5E9W3 Q9UKF6 G5E9W3 Q9UKF6 G5E9W3 Q9UKF6	3
FASGGC*DNLIK	C190 C233 C173 C173 C187 C190 C233 C173 C173 C187	1.9703	A0A0C4DFR6 P55735 P55735 P55735 A0A0C4DFR6 P55735 P55735 P55735	2
AGDELAYNSSSAC*ASSR	C362 C239 C362 C239 C362 C239	1.965501667	Q86Y37 Q86Y37 Q86Y37 Q86Y37 Q86Y37 Q86Y37	3
CPALYWLSGLTC*TEQNFISK	C27 C56	1.96499	P10768	2
STMSLPPGLLGNWSWEGAPAVVLLDECGLGLED TPHVC*WEPQAQGR	C505 C457	1.9639225	G3V1A6 P57764	2
TIGGGDDSFTHFFC*ETGAGK	C54 C56 C54 C54	1.962892308	P68366 C9JDL2 P68366 P68366	3
YRPDMPC*FLLSNQNAVK	C129 C48	1.959248333	Q15398 Q15398	3
NFPAIGGTGPTSDTGWGC*MLR	C74 C74	1.957745	Q9Y4P1 Q9Y4P1	2
SC*PETLTHAVGMSESPIGPK	C648 C888	1.95598	Q68CZ2 Q68CZ2	2
LSLLGGALPMFELVELQPSHLAC*PDVLNLSLDSSD VER	C361	1.953228	Q9Y4P1	2
YMACC*LLYR	C316 C316 C316 C316 C316 C316 C316 C316 C323	1.953222667	Q9BQE3 Q9BQE3 P68363 P68363 Q71U36 Q71U36 P68366 P68366 A6NHL2 A6NHL2 A6NHL2 A6NHL2	3

	C283 C323 C283 C316 C316 C316 C323 C283 C316 C316 C316 C323 C283		P68363 Q71U36 P68366 A6NHL2 A6NHL2 Q71U36 Q9BQE3 P68366 A6NHL2 A6NHL2	
LCDYVCDLLEESNVQPVPVTVCGDIHQFYDL C*ELFR	C99 C62	1.952825	O00743 O00743	2
PHLENVVLC*R	C10 C10	1.950916667	O43913 O43913	2
C*TDGIYVVDSDVDRLLEEAK	C85 C85 C85 C85 C85 C85 C85 C85	1.9480975	P56559 P56559 P56559 P56559 P56559 P56559 P56559 P56559	3
EC*SPWMSDFKVEFLR	C3683 C3683	1.94454	P78527 P78527	2
AYHEQLTVAEITNAC*FEPANQMVK	C295 C295 C295 C295 C295	1.9434225	Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3 Q9BQE3	3
EMNPALGIDC*LHK	C493 C455 C472	1.94324	P48643 B7ZAR1 E9PCA1	2
DIEDTLSGIQTAGC*GSTFFR	C144 C144	1.94293	Q8IYU8 Q8IYU8	2
MVSTPIGGLSYVQGC*TK	C64 C64 C89 C64 C64	1.94229	Q96CM8 Q96CM8 Q96CM8 E9PF16 D6RF87	2
GNFTLPEVAEC*FDEITYVELQKEEAQK	C648 C629 C648 C629 C648 C629 C648 C629 C648 C648 C648 C648 C629 C648 C629 C648 C629	1.938552632	Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839	3
MRECISIHVGQAGVQIGNACWELYC*LEHGIQPD GQMPSDK	C25 C25 C25 C25	1.938056667	Q9BQE3 P68363 Q71U36 Q13748	3
IIDINYPVPEAC*LSNKR	C492 C492 C270 C270 C492	1.93766	P23921 P23921 E9PL69 E9PL69 P23921	3
SAC*DTVDTWLDLDTAK	C4216 C4216 C4216	1.934796	Q14204 Q14204 Q14204	3
TENTIFSSTLPRPGDPGAPPLPDLQLEEEGTC*A NSSEMFLPLR	C215	1.93081	O95999	2
VDDEILGFISEATPLGGIQAASTESC*NQQLDLALC R	C561 C561 C561 C561	1.925526667	P42166 P42166 P42166 P42166	3
C*PWAIPQNTISCSLADVMSEQLAK	C22 C22 C22	1.924265	B4E1Q4 O14730 O14730	2
DNEVDFQEYCVFLSC*IAMMCNEFFEGFPDKQPR	C81	1.92383	P26447	2
MKVELC*SFSGYK	C6 C6 C6 C6 C6 C6	1.918167	P83731 C9JNW5 P83731 C9JNW5	2
GMLLGVFDGHAGC*ACSQAVSER	C174 C149	1.91349	Q9P0J1 Q9P0J1	2
DKEPEVVFIGDSLVLQMHQC*EIWR	C55	1.91321	Q15102	2
GFSSTDGDVANYISSQLPDLPLC*SR	C148 C148 C148 C148	1.90934	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5	2
IC*PVEFNPNFVAR	C33 C33 C33 C33 C33 C33	1.904596667	Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30	3
HFLSDTGMAC*R	C119 C69 C119 C69	1.902113333	Q5TFE4 Q5TFE4 Q5TFE4 Q5TFE4	2
QALVNC*NWSSFNDETCLMMINMFDK	C146 C146	1.901876667	Q9UBV8 Q9UBV8	2
TGIEQGS DAGYLC*ESQK	C322 C322	1.900032	P40939 P40939	3
MDSC*IEAFGTTK	C200 C138	1.8959	Q9GZS1 Q9GZS1	2
VDSTTC*LFPVEEK	C246 C264	1.895685	Q06210 Q06210	2
NPVINIASMLGSTDIPDWCVVEAGFPFSSDC*LPD LSVWAEMLDKSPIR	C641 C641 C641 C641	1.890817647	P13798 P13798 P13798 P13798	3
SSEC*MKDDPITLVALSPQGT AQGELFLDDGHTF NYQTR	C822 C844 C822 C844 C822 C844	1.890568333	Q14697 Q14697 Q14697 Q14697 Q14697 Q14697	3
HSMNPFCEIAVEEA VR	C133 C42 C133 C42	1.88873	P38117 P38117 P38117 P38117	3
KAC*GDSTLTQITAGLDPVGR	C25 C25	1.885785	P62879 P62879	2
YNAGEDVQVSMC*AMSEEYAVAIKPKC	C139	1.885333636	Q9GZV4	3

ASVFGGSC*FQK	C276	1.88525	O60701	2
GFCHLCDGQEACC*VGL EAGINPTDHLITAYR	C101 C139	1.87929	P08559 P08559	2
VDFNDC*VEADDVEGK	C101 C16	1.878108	O14929 O14929	3
SGIQPLC*PER	C341	1.87785	P42166	3
CC*EEWVCDEPKDQTVVGPALAAAYR	C161	1.87633	P29279	2
FTDDTFC*EACK	C68 C68	1.87562	Q6IQ22 Q6IQ22	2
C*EGDEVEDLYELLK	C88 C40	1.87529	Q7L8W6 H0YND7	2
KC*AADLGLNK	C84 C84	1.87279	P49773 P49773	2
NDAPEEAGEGC*VAAILGETEVQQFLR	C57 C57 C57	1.87228	Q96DC7 Q96DC7 Q96DC7	3
LSIQC*YLSALDR	C224	1.87203	Q01581	3
KFLDGNELTLADC*N	C178 C178	1.871936667	O00299 O00299	3
ECEHCDC*LQGFQLTHSLGGGTGSGMGTLLISK	C92 C129	1.870485	K7ESM5 Q9BUF5	2
EEC*PVFTPPGGETLDQVK	C55 C114 C55 C114	1.869938	A0A0U1RQD1 Q9NQ88 A0A0U1RQD1 Q9NQ88	3
LVSSPC*CIVTSTYGTANMER	C589 C589 C589 C589 C589 C589 C589 C589 C589	1.869893846	P08238 P08238 P08238 P08238 P08238 P08238 P08238 P08238 P08238	3
TDSC*DVNDVCQVVELLQER	C207	1.869705	O43252	2
LTHNCLNDFIGTSTDESSDLC*TVQIPTSWR	C244 C245	1.867776667	Q9UIA9 E7ESC6	2
ANEDAVPLC*MSADFPR	C171 C171	1.86707	Q9C0B1 Q9C0B1	2
VSYLEIYNEEILDLLC*PSR	C153 C153 C153	1.86347	O95239 O95239 Q2VIQ3	2
LIC*DFPFGLLEER	C681 C670 C681 C670	1.86307	Q96JC1 Q96JC1 Q96JC1 Q96JC1	2
C*HIISQFNQGFYDCVIATDAEVLGAPVK	C298 C252 C298 C298 C252	1.853505	Q9NY93 H7C3E9 G3V0G3 Q9NY93 H7C3E9	2
NSNVDSYLESYQSC*PR	C767 C767 C645 C106 C106 C645 C210 C767 C645 C767	1.847382727	C9J6P4 C9J6P4 Q7Z2W4 Q7Z2W4 Q7Z2W4 Q7Z2W4 H7C5K1 C9J6P4 Q7Z2W4 C9J6P4	3
KGADIMYGTVD*WR	C257 C257	1.84436	P12236 P12235	2
GC*WDSIHVVEVQEK	C147 C176 C147 C135 C173	1.842214167	P47756 B1AK88 P47756 B1AK87 B1AK85	2
DVIELTDDSFDKNVLDESDVMMVEFYAPWCGHC *K	C193 C241 C245 C198 C190 C193 C241 C245 C198 C190	1.8419625	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	2
IIGDPYKQQAC*EMVMDILR	C152 C296 C215 C296	1.840735	M0QYH3 A0A087WTP3 M0R0I5 Q92945	2
TYSHLNIAGLVGSIDNDFC*GTDMTIGTDSALHR	C170 C170	1.839097692	P17858 P17858	3
FTSC*VAFFNILNELNDYAGQR	C69 C69	1.83573	S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 S4R347 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5 Q5T0N5	3
SC*SSCAVHDLIFWR	C42 C42	1.833018571	O95197 O95197	3

FEQSDLEAFYNVITVC*GTNEVR	C308 C306 C308 C306 C308 C306 C308 C306 C308 C306 C308 C306	1.832762857	Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3 Q5JPI3	2
RPYGVGLLIAGYDDMGPHIFQTC*PSANYFDCR	C154 C148	1.8313775	P25786 P25786	2
INPYMSSPC*HIEMILTEK	C144 C144 C144 C106 C144 C134 C106 C144 C144	1.82969	A0A087 P18621 P18621 P18621 A0A0A6YYL6 J3QLC8 A0A0A0MRF8 J3QQT2	3
LLLAGYDDFNC*NIWDAMKGDR	C294	1.822575	P62879	2
GWNEC*EQTVALLSLK	C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20 C20	1.820406667	M0QZ22 A0A087WUK6 A0A087WZT0 Q5PRF9 Q9UPU9 Q9UPU9 Q9UPU9 Q9UPU9 M0QZ22 A0A087WUK6 M0QY61 A0A087WZT0 Q5PRF9	2
ASTVNYC*GLNEISEETTIQK	C355 C355	1.81974	Q9C0F1 Q9C0F1	2
AFTEANDGSLC*LAMEYGGEK	C112 C112 C112	1.81973	Q96KB5 Q96KB5 Q96KB5	2
TDSCDVNDC*VQQVVELLQER	C212	1.8077	O43252	2
ESGC*VLGLRPGAQESPVSWPEGSK	C437 C369 C227 C437 C369 C227	1.802645	Q6ZUT6 Q6ZUT6 Q6ZUT6 Q6ZUT6 Q6ZUT6 Q6ZUT6	2
VKLPIIGVVENMSGFIC*PK	C235 C224	1.800246667	P53384 P53384	2
ECENCDC*LQGFQLTHSLGGGTGSGMGTLISK	C476 C129 C57	1.80022	A0A0B4J269 Q13509 Q13509	2
QAHLCLVLANC*DEPMYVK	C56	1.793544	P25398	2
GDPQVYEELFSYSC*PK	C417 C460 C369 C417 C460 C369	1.78569	Q9Y262 B0QY89 Q9Y262 Q9Y262 B0QY89 Q9Y262	2
VVETSALLC*TAQHLLAAVQSSGAPATASGPQVDN TGGEPAWDSPLRR	C150 C150 C150	1.78002	Q9H6W3 Q9H6W3 Q9H6W3	3
HLNEIDL FHC*IDPNDSK	C58 C58 C58 C62 C58 C58 C58 C62	1.769926667	Q15185 Q15185 Q15185 A0A087WYT3 Q15185 Q15185 Q15185 A0A087WYT3	2
AQC*ETLSPDGLPEEQPQTTK	C3642 C3649 C3658 C3642 C3649 C3658	1.76926	Q7Z6Z7 Q7Z6Z7 Q7Z6Z7 Q7Z6Z7 Q7Z6Z7 Q7Z6Z7	2
VIEINPYLLGTMSGC*AADCQYWER	C116 C120 C120 C116 C120 C120 C116 C120 C120 C116 C120 C120 C116 C120 C120	1.768693333	P28062 P28062 P28062 P28062 P28062 P28062 P28062 P28062 P28062 P28062	3
DIVDSIKGELSGHFEDLLLAIVNC*VR	C207 C246 C207 C246 C207 C246	1.76623	D6RA82 P12429 D6RA82 P12429 D6RA82 P12429	3
YYALCGFGVLSC*GLTHTAVVPLDLVK	C75 C75 C75	1.764113636	Q00325 Q00325 Q00325	3
ASGC*EGEDVVTLK	C628 C628	1.763725	P52789 P52789	2
VWLQYQC*LWDMQAENIYNR	C1059 C1059 C1059 C1059 C1059 C1059 C1059	1.760634286	Q14204 Q14204 Q14204 Q14204 Q14204 Q14204 Q14204	3
YYRPTEVDFLQGDC*TK	C306 C336 C306 C336	1.747656667	O60547 O60547 O60547 O60547	2
NQFVSLGSMC*FPEAVLLSDER	C834 C595 C834 C595	1.746435	Q2KHR3 Q2KHR3 Q2KHR3 Q2KHR3	2
LQVIQC*IDVAEQALTALEMLSR	C541 C583 C535 C238 C541 C583 C535 C238	1.74396	Q14669 Q14669 Q14669 Q14669 Q14669 Q14669 Q14669 Q14669	2
SPGFALTD C*VTLR	C128 C128	1.7428	A8MT25 A8MT25	2
SC*SLGSLGALGPACCR	C282 C261 C282 C261	1.737755	Q15633 Q15633 Q15633 Q15633	2
HLYTLDDGGDIINALC*FSPNR	C240 C240	1.732183	P63244 P63244	3
GEAYNLFHNC*NFTSNEVAQFLTGR	C108 C108	1.73032625	Q6ICB0 Q6ICB0	3

LC*PGGQLPFLLYGTEVHTDTNK	C59 C59	1.72337	O00299 O00299	3
VANVIVDHSLQDC*VFSK	C49 C83 C83 C49 C49 C90 C49 C49 C90 C49 C83 C83 C49 C49 C90 C49 C49 C90	1.716505	J3KSB8 A9UHW6 J3QKW3 A9UHW6 J3QRZ6 A9UHW6 J3QLJ5 J3QLD1 J3KSU6 J3KSB8 A9UHW6 J3QKW3 A9UHW6 J3QRZ6 A9UHW6 J3QLJ5 J3QLD1 J3KSU6	2
VVFC*PVKEALEVDWSSEK	C214	1.715466667	Q9UBE0	3
AHIAQLC*EK	C617 C621 C617	1.71369	Q00610 A0A087WVQ6 P53675	2
FICVTP TTC*SNTIDLPMSPR	C718 C717	1.705353333	P40763 P40763	2
AIVDALPPPESAC*TVPTDVK	C274 C274	1.705305	Q15181 Q15181	2
LTAYLPAMSEDEDCYGNYNLLSQFGC*MQVSS SSSSHLSASDTGLPQR	C385 C359 C385 C358 C385 C335 C359 C385	1.70157	O15530 O15530 O15530 E9PER6 O15530 O15530 O15530 O15530	2
LC*WFLDEAAAR	C237 C237	1.69748	O95336 O95336	3
NMMAAC*DPR	C266 C266 C266 C303 C303 C303 C285 C285 C285 C303 C303 C303 C650 C303 C231 C650 C303 C231 C303 C303 C303 C303 C303 C303 C303 C303 C303 C266 C269 C303 C266 C269 C303 C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C650 C650 C266 C269 C303 C266 C269 C303 C285 C303 C303 C303 C303 C303 C650 C303 C303 C269 C266 C303	1.696412353	K7ESM5 K7ESM5 K7ESM5 Q9BUF5 Q9BUF5 Q9BUF5 Q5JP53 Q5JP53 Q5JP53 P68371 P68371 P68371 A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509 Q13509 Q9BVA1 Q9BVA1 Q9BVA1 Q13885 Q13885 Q13885 P04350 P04350 P04350 A0A075B736 Q5SQY0 Q3ZCM7 A0A075B736 Q5SQY0 Q3ZCM7 A0A075B736 Q5SQY0 Q3ZCM7 Q5JP53 Q5JP53 P68371 P68371 P04350 P04350 Q9BUF5 Q9BUF5 Q9BVA1 Q9BVA1 A0A0B4J269 A0A0B4J269 A0A075B736 Q5SQY0 Q3ZCM7 A0A075B736 Q5SQY0 Q3ZCM7 Q5JP53 P68371 Q9BUF5 P04350 Q9BVA1 Q13885 A0A0B4J269 Q13509 A6NNZ2 Q5SQY0 A0A075B736 Q3ZCM7	3
TPGAATASASGAAEDGACGC*LPNPGTFEECHR	C76 C76	1.693933333	O96008 O96008	2
LFHEDGEC*WVYDEPLLKR	C707 C703 C720	1.693603333	Q96SU4 Q96SU4 Q96SU4	3
TVEEIEACMAGC*DK	C482 C482	1.693577143	P12955 P12955	3
TPGAATASASGAAEDGAC*GCLPNPGTFEECHR	C74 C74	1.690492667	O96008 O96008	2
SNLQEIFLPAFPC*HER	C337 C337	1.68824	Q9NPG8 Q9NPG8	3
SEHGPIFFPESGQPEC*LK	C324 C295 C247 C323	1.687636667	Q96ME7 Q96ME7 Q96ME7	2
LAEKEDWIVDNEGLTSLPCFEQC*IVCSLQSLK	C624 C624	1.68669	Q96KP1 Q96KP1	2
TGQATVAGIPAGWMGLDC*GPESKK	C288 C316 C288 C316 C288 C316	1.682976667	P00558 P00558 P00558 P00558 P00558 P00558	2
GLNPLNAYSDLAEFLETEC*YQTPFNK	C343 C343 C343 C343 C343	1.67749	O14879 O14879 O14879 O14879 O14879	3
VAVC*DIPPR	C317 C354 C701 C354 C282 C354	1.673735	K7ESM5 Q9BUF5 A0A0B4J269 Q13509 Q13509 Q9H4B7	2
AVASQLDC*NFLK	C193 C207 C193 C207 C193 C207	1.671971667	P62333 A0A087 P62333 A0A087 P62333 A0A087	3
ISEVFDC*WFESGSMPIYAQVHYPFENKR	C526 C526 C526	1.669643529	P41252 P41252 A0A0A0	3

LEDVENLGC*R	C329 C329 C329 C329	1.666848	P01769	2
TNTAVRPHYC*FIEFDNFIQR	C111 C111 C111 C111 C111 C111 C111 C111 C111	1.665654	C9JDJ8 C9JNZ0 Q96IW7 C9JRY4 C9JDJ8 C9JNZ0 Q96IW7 C9JRY4 C9JDJ8 C9JNZ0 Q96IW7 C9JRY4	3
SSYLNIIVGLVGSIDNDFC*GDTMTIGTDSALHR	C170 C170 C241 C170 C170 C241	1.664873333	P08237 P08237 P08237 P08237 P08237 P08237	3
VC*FGIQLLNAVSR	C218 C208 C188 C218 C208 C188 C102 C218 C208 C182 C188	1.662256	A0A0C4DFN3 Q99685 Q99685 A0A0C4DFN3 Q99685 Q99685 H7C599 A0A0C4DFN3 Q99685 Q99685	3
FQGIKHEC*QANGPEDLNR	C118 C135 C118 C135	1.661366667	P60981 P60981 P60981 P60981	2
TTPVDLC*LLEESVGSLEGSR	C1499	1.656455	Q9UUK3	2
MSYLTAMGADYLSC*DSR	C891 C945 C891 C918 C914 C914 C914 C891 C945 C891 C918 C914 C914 C914 C891 C945 C891 C918 C914 C914 C914	1.656216667	Q9UDY2 Q9UDY2	3
HLEEHVDVLMTSNIVQC*LAAMLDTVVFK	C299 C299 C299	1.655765	O00487 O00487 O00487	3
EVIQSDSLWLVEFYAPWC*GHCQR	C55 C103 C107 C60 C52 C55 C103 C107 C60 C52 C55 C103 C107 C60 C52	1.654184167	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	3
KETGAASFLC*R	C28 C28 C28 C28 C28 C28	1.65139	P29144 Q5VZU9 P29144 Q5VZU9 P29144 Q5VZU9	2
C*YYSNTDAVIYVVDSCDRDR	C63 C80 C34 C80 C63 C80 C80 C63 C80 C80	1.64668	P40616 F8VYN9 B4DZG7 P40616 P40616 F8VYN9 P40616 P40616 F8VYN9 P40616	2
TGNGPMSVC*GR	C499 C490 C493 C574 C491 C499 C490 C493 C574 C491	1.646515	O95793 A0A087 O95793 O95793 Q5JW30 O95793 A0A087 O95793 O95793 Q5JW30	2
DAFEHIVTQFSSVPVSVSDSYDIYNAC*EK	C287 C287 C287 C287 C287 C287 C287 C287 C287 C287 C287 C287	1.645604444	P43490 A0A0C4DFS8 P43490 A0A0C4DFS8 P43490 A0A0C4DFS8 P43490 A0A0C4DFS8 P43490 P43490 P43490 P43490	3
YAYLNVVGMVGSIDNDFC*GDTMTIGTDSALHR	C179 C179	1.643843	Q01813 Q01813	3
AQIIELLC*IVEALKK	C595 C595	1.639485	Q9Y5K6 Q9Y5K6	2
AHVVPC*FDASK	C1157 C1157 C1130 C1157 C1157 C1130 C1157 C1157 C1130	1.6386875	P21333 P21333 Q60FE5 P21333 P21333 Q60FE5 P21333 P21333 Q60FE5	2
IHMGC*AENTAK	C196	1.611802857	P24752	2
GFCHLC*DGQEACCVGLEAGINPTDHLITAYR	C94 C132 C94 C132	1.611318333	P08559 P08559 P08559 P08559	2
AQEAC*GPLEMDSALSVVQNLEK	C1045 C1045 REVERSE	1.60739	Q9Y490 Q9Y490	2
C*LEELVFGDVENDEALLR	C90 C90 C90	1.60698	Q9Y5J1 Q9Y5J1 Q9Y5J1	3
VQGGVPAGSDEYEDEC*PHLIALSSLNR	C449 C449 C449 C449	1.606455	Q9BVS4 Q9BVS4 Q9BVS4 Q9BVS4	2
GLC*ESVVEADLVEALEK	C79 C84 C84 C84 C79 C84 C79 C84 C84 C84 C79 C84	1.605675	Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3 Q8WVV9 Q8WVV9 D6W592 Q8WVV9 C9IYN3 B7WPG3	2
C*ELLYEGPPDDEAAMGIK	C369 C369	1.60566	P13639 P13639	3
KIWC*FGPDGTGNILTDITK	C651 C651 C651	1.604856667	P13639 P13639 P13639	3

FC*ACPEEAHALELR	C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64 C64	1.603122	Q9NP81 Q9NP81 MOR1C0 MOR2H5 B4DJM9 M0QWZ7 Q9NP81 Q9NP81 MOR1C0 MOR2H5 B4DJM9 M0QWZ7 Q9NP81 Q9NP81 MOR1C0 MOR2H5 B4DJM9 M0QWZ7	2
TTISFALEEYLVSHAIPC*YSLDGDNR	C73 C73 C73	1.60206	O95340 O95340 O95340	2
KHPNEIC*VPMSVEFEELLK	C103 C103 C103	1.60192	Q12874 Q12874 Q12874	3
SEGTYC*CGPVPVR	C370 C370 C370 C370	1.600122	P21980 P21980 P21980 P21980	3
AVMEQIPEIQKDSLQFDC*K	C1131	1.593255	Q9HAV4	2
HLFC*PDLLR	C22 C22 C22 C22 C22 C22 C22	1.58601	Q9NUI1 A0A0J9YW10 A0A0J9YY83 Q9NUI1 A0A0J9 G3V0I9	2
YMAC*CLLYR	C315 C315 C315 C315 C322 C282 C315 C315 C315 C322 C282	1.585055	Q9BQE3 P68363 Q71U36 P68366 A6NHL2 A6NHL2 Q71U36 Q9BQE3 P68366 A6NHL2 A6NHL2	3
LEGIPAYIVPQTAPDC*KK	C113 C113	1.578655	Q9GZT4 Q9GZT4	2
IIMC*AWNPR	C180 C180	1.57829	P04818 P04818	2
EREFNFNAIETMPC*VK	C262 C202 C262 C202	1.57802	P31350 P31350 P31350 P31350	2
GNIPAESYFFIDILLDIRDEIAGC*IEK	C274 C211 C211	1.5763175	P48556 K7EJR3 R4GMR5	2
KIC*ALDDNVCMAFAGLTADAR	C63 C63	1.569728333	O14818 O14818	3
VMAEANHFIDLSQIPC*NGK	C620 C620	1.566796667	O15294 O15294	2
KAGC*AVTSLASELTK	C1227 C1218 C1227 C1183 C1218 C1203	1.56534	O60610 A0A140T8Z0 A0A0G2JH68 H9KV28 O60610 O60610	2
MGLTLEGTVC*LDPLDSR	C296 C193 C181	1.5647	Q9UBP9 Q9UBP9 H7BZV7	2
GC*LLYGPPGTGK	C170 C184 C170 C184	1.560686667	P62333 A0A087 P62333 A0A087	3
LSDQC*TGLQGFLVFHSGGGTSGSFTSLLMER	C129	1.55925	P68366	3
AQAISPC*VQNFCALDSK	C513 C513 C513 C513 C513 C513	1.559083333	Q8WTW3 A0A087WV10 E9PBL8 Q8WTW3 A0A087WV10 E9PBL8	2
GEFYVIEAAC*DATYNEIVTFER	C50 C14 C99 C86 C99 C14	1.555994	E9PFF5 P51114 P51114 P51114 E7EU85	3
QMFEPVSC*TFTYLLGDR	C34 C34 C34 C34	1.555251667	O95571 O95571 O95571 O95571	3
YVEPIEDVPC*GNIVGLVGVQFLVK	C466 C466	1.54823	P13639 P13639	2
GAFC*DLVWSDPEDVDTWASPR	C229 C192 C229 C192 C229 C192 C229 C192 C229 C192	1.545847143	O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743 O00743	2
DLNYC*FSGMSDHR	C267 C267	1.532348	G8JLB6 P31943	3
TDFYDQC*NDVGLMAYLGTITK	C283 C282 C283 C282	1.523105	Q7L5N1 E7EM64 Q7L5N1 E7EM64	2
ELAPAVSVLQLFC*SSPKPALR	C296 C296	1.522423333	Q9UBF2 Q9UBF2	3
SAVLISSKPGC*FIAGADINMLAACK	C97	1.52009	P40939	3
IVHAFDMEDLGDKAVYC*R	C72	1.51497	Q9NZ45	2
AQVCQQAHSFAGMPC*GIMDQFISLMGQK	C212 C182 C212 C182	1.50897375	P51570 P51570 P51570 P51570	2
C*TPACISFGPK	C34 C34 C34	1.506216667	P34932 A0A087WTS8 A0A087WYC1	2
SEVEEVDFAGWLC*K	C287 C384 C287 C384	1.50614	G5E9C7 P36507 G5E9C7 P36507	2

AHGLSLIPSTGLC*SPDLVNR	C244 C413 C306 C391 C388 C397 C412 C406 C382 C407 C355 C300 C244 C413 C306 C391 C388 C397 C412 C406 C382 C407 C355 C300 C244 C413 C306 C391 C388 C397 C412 C406 C382 C407 C355 C300	1.505333333	O75030 O75030	3
SNC*KPSTFAYPAPLEVPK	C806 C806	1.501195	Q99460 Q99460	2
GC*FSDLDLIDNLGPAMMLSDR	C515 C211 C515	1.496713333	Q9BW27 J3QLH0 Q9BW27	2
ETTNIFNSC*GCVR	C354 C290 C354	1.494	Q9UBB4 Q9UBB4 Q9UBB4	2
FGSQC*MQPNNIMGIENICELAAR	C67 C47 C200	1.490815	P24468 P24468 P24468	2
GHALLIDC*R	C233 C203	1.489405	P51570 P51570	2
SCSSSC*AVHDLIFWR	C46 C46	1.48653	O95197 O95197	3
TGAVYLC*PLTAHKDDCER	C94 C94 C94 C94	1.48487	P26006 P26006 P26006 P26006	2
LVMSYVAAVC*GK	C129 C129 C129 C122 C129 C129 C129	1.483605	E9PDF6 O43795 O43795 Q9UBC5 E9PDF6 O43795 O43795	3
SEALGVGDVKLPC*EMDAQGPK	C196 C187 C196 C187 C196 C187	1.47137	Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8	3
AALAAC*PSSPFPAMPR	C502 C463	1.463541	Q8N2G8 Q8N2G8	3
LAGANPAVITC*DELLGHEK	C4061 C4061	1.461836667	P78527 P78527	2
ANDGGLAAGAPAMHMASYGPEPC*TDNSDSLIA K	C85 C85	1.44944	O43823 O43823	2
EGKPSWGLPIDAVQWDIC*NLPLR	C391 C391	1.448635	Q9BV44 Q9BV44	2
SC*LDYQTQETK	C110 C110 C110 C110	1.445325	O43572 E7EMD6 O43572 E7EMD6	2
FGSQCMQPNNIMGIENIC*ELAAR	C80 C60 C213 C80 C60 C213	1.4331375	P24468 P24468 P24468 P24468 P24468 P24468	2
LEIC*NLTPTDLTSDTYKK	C341 C341 C341	1.43282	P17655 P17655 P17655	3
MTSHPTLPYYLTGAQDGSVRMFEGHSQQITC* FR	C2781 C2802	1.43148	Q9Y485 F5H269	2
QFGNLPIC*MAK	C863 C919 C906 C907 C841 C907 C841 C863	1.430302222	P11586 F5H2F4 Q6UB35 B7ZM99 A0A087WVM4 B7ZM99 A0A087WVM4 P11586	3
VVMALGDYMGASC*HACIGGTNVR	C131 C131 C131	1.427251429	P60842 J3KT12 P60842	2
TGC*VDLTITNLLEGAVAFMPEDITK	C391 C325 C325 C391 C325 C325	1.425287143	Q9Y679 Q9Y679 Q9Y679 Q9Y679 Q9Y679 Q9Y679	3
GEPGLEQPFWISSVAALLNTDLVATGSHSSC*VR	C399 C399	1.414695	O43818 O43818	2
STC*SCPDLPNGQDLGENSR	C60 C60 C60 C60 C60 C60	1.41456	A0A087WYK8 O43847 A0A087WYK8 O43847 B1AKJ5 O43847	2
NSIQNQESYEDGPC*TITSNK	C265 C211 C265 C211 C265	1.4099	Q9Y2L5 J3QQJ5 Q9Y2L5 J3QQJ5 Q9Y2L5	2
LALDCSGQQVAVDLFLLSGQYSDLASLGC*ISR	C704 C704 C704 C704 C704	1.3959	O95486 O95486 O95486 O95486 O95486	2
IC*DPYAWLEDPDSEQTK	C25 C25 C25	1.390166	P48147 P48147 P48147	2
FQYEC*GNYSAAEYLYFFR	C141 C141 C141 C141	1.387546	P60228 P60228 P60228 P60228	2
LAPILC*DGTATFVLDLVPGFR	C568 C568 C568	1.384141667	O43264 O43264 O43264	2

ERINVYYNEAESC*DCLQGFQLTHSLGGGTGSGM GTLISK	C57	1.383627778	M0QYM7	3
TREEEC*HFYAGGQVYPGEASR	C51	1.376888	Q13162	2
LDDL*TR	C145 C181 C265 C126 C132 C249 C145 C181 C265 C126 C132 C249	1.375995	H7C3L3 F8WB76 D3YTC9 H7C3L3 F8WB76 D3YTC9	2
GAEPETGSAVSAQC*QVGPTR	C69 C90 C69 C90 C69 C90	1.37317	Q9UI10 E7ERK9 Q9UI10 E7ERK9 Q9UI10 E7ERK9	3
TDVVLVSC*DLITDVALHEVVDLFR	C106 C106 C106 C106 C106 C106	1.370585	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	2
SSGC*FPNMAAK	C460	1.36285	Q96I24	2
QVC*QLPGLFSYAQHIASIDGR	C49 C49 C49	1.355366667	Q9Y6C9 E9PIE4 Q9Y6C9	2
YATTGKC*ELENCPFFVETLHGK	C100	1.353524444	Q06203	2
DC*QIAHGAAQFLR	C1086 C1093 C1086 C1093	1.348285	C9J2Y9 P30876 C9J2Y9 P30876	2
GADYMDC*LYR	C116 C122 C103 C116 C122 C103 C103	1.34442	A0A0A0MTN0 Q13617 Q13617 A0A0A0MTN0 Q13617 Q5T2B5 Q13617	2
APPTAC*YAGAAPAPSQVK	C225 C248 C50 C225 C248 C50	1.34303	P17676 P17676 P17676 P17676 P17676 P17676	2
RLNQAENGSSLPASAASSC*AEAR	C27	1.337415	Q8NB90	2
FC*NIMGSSNGVDQEHFSNVVK	C150	1.329845455	Q9NYL9	2
LEQC*PLQLNNPFNEYSK	C149 C149 C149 C149 C149 C149 C149 C149 C149 C149	1.32785	Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7 Q9BPZ7	2
FSPLC*QWLYLEAADIVESLGKPECEEFPR	C414	1.31012	A0AVT1	2
YQIDPDAC*FSAK	C232 C232	1.30593	P21796 P21796	2
LGGTIDDC*ELVEGLVLTQK	C221 C221 C191	1.30592	P50991 P50991 P50991	2
LLQDYPITDVC*QILQK	C387 C387 C387	1.305153333	Q9NVG8 Q9NVG8 Q9NVG8	3
ESESCDC*LQGFQLTHSLGGGTGSGMGTLISK	C129 C129 C129	1.303568889	Q9BVA1 Q13885 Q9BVA1	3
TAFASDC*SAAPLEMMENFPKPLENELLEFEK	C91 C102 C91 C102 C91 C102 C91	1.3013	Q9NSV4 Q9NSV4 Q9NSV4 Q9NSV4 P01615 Q9NSV4 Q9NSV4 Q9NSV4	2
GALGSPVAAAGAAMQESFGC*VVANR	C22 C22 C22 C22	1.297795	Q5JVS0 Q5JVS0 Q5JVS0 Q5JVS0	2
C*FQEMLEEEEEHEWFIPAR	C60 C60 C60 C60 C60 C60	1.288067143	D6RA77 Q9BPZ3 D6RA77 Q9BPZ3 D6RA77 Q9BPZ3	3
QPPWC*DPLPGFVVGEDLDPFGPR	C185 C185 C185 C185	1.28393	Q5QPM7 Q92530 Q5QPM7 Q92530	2
QASVGAGIPYSVPAWSCQMIC*GSGLK	C92 C121 C92 C121	1.281078333	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	2
EITSLDTENIDEILNADVALVNFYADWC*R	C58 C58 C58 C58 C58	1.274933889	Q9BS26 Q9BS26 Q9BS26 Q9BS26 Q9BS26	3
AHQLVLPCC*DVVIK	C279 C279	1.27483	Q9NZB2 Q9NZB2	3
HSSSC*LPLPEFVDNTQVPSYCLNAR	C89 C89	1.26772	Q9ULP9 Q9ULP9	2
AYHEQLSVAEITSSC*FEPNSQMVK	C295 C319 C229 C295 C319 C229 C295 C319 C229 C53 C53 C53 C295 C319 C229	1.266888	Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 Q9NY65 C9J2C0 Q9NY65 V9GZ17 V9GZ17 V9GZ17 Q9NY65 C9J2C0 Q9NY65	2
VCNALALLQC*VASHPETR	C99 C99 C99 C99 C99 C99	1.26341	Q92600 Q92600 Q92600 Q92600 Q92600 Q92600	2
STFLSLMTSTASEASYEFTTLTC*IPGVIEYK	C99 C99 C99 C99	1.262	A8MZF9 P55039 A8MZF9 P55039	2

CLQVLLQDCD*QDHPRSLDELEQK	C187 C187	1.26052	O43156 O43156	2
YVDIAIPC*NNK	C163 C168 C163 C163 C168 C163	1.258575	C9J9K3 A0A0C4DG17 P08865 C9J9K3 A0A0C4DG17 P08865	2
YAC*GLWGLSPASR	C26 C175 C457 C26 C175 C457 C26 C175	1.249483333	H7CON4 H7C561 Q15637 H7CON4 H7C561 Q15637 H7CON4 H7C561	3
GYDAPLC*NLLLFK	C379 C420	1.2464	O60488 O60488	3
C*NYLALVGGGK	C56 C63 C56 C63 C63	1.2461	I3L456 Q5MNZ6 I3L456 Q5MNZ6 Q5MNZ6	3
ALAPLLAFVTKPNSALESC*SFAR	C573	1.24201	P46060	2
YNVYPTYDFAC*PIVDSIEGVTHALR	C381 C381	1.239605	P07814 P07814	2
NLLC*GFYGR	C247 C247 C247 C247	1.237295	Q9UH17 B0QYD3 Q9UH17 B0QYD3	2
ACGGPGNFC*PSFSELQR	C188 C188 C188 C188 C188 C188	1.23148	Q15646 Q15646 Q15646 Q15646 Q15646 Q15646	2
LMWLFGC*PLLLDDVAR	C66 C66 C66	1.228125	O15067 O15067 O15067	3
MAC*GLVASNLNLKPGECLR	C3 C3 C3	1.22277	P09382 P09382 P09382	3
GC*AFVTFTR	C150 C177 C132 C149 C150 C150 C176 C150 C177 C132 C149 C150 C150 C176	1.218666667	Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879 Q92879 G5EA30 Q92879 Q92879 Q92879 Q92879 Q92879	2
QWLFGETGCEFYAFC*GALFGISSMITLTAIALDRY LVITR	C149 C160 C160 C149 C160 C160	1.21555	Q9UHM6 C9JWU6 Q9UHM6 Q9UHM6 C9JWU6 Q9UHM6	2
RGDPFTDLC*FLNSPIFK	C251 C503 C234 C234 C251 C503	1.215303333	Q5FBB7 Q5FBB7 Q5FBB7 Q5FBB7 Q5FBB7 Q5FBB7	3
LLQFYAETC*PAPER	C142 C137 C126 C161 C142 C137 C126 C161	1.21103	O00159 F5H6E2 O00159 O00159 O00159 F5H6E2 O00159 O00159	2
FTSGAFLSPSVSQEC*R	C1051 C1068 C1068 C107 C1051 C1068 C1068 C107	1.210263333	P52948 P52948 P52948 H7C3P6 P52948 P52948 P52948 H7C3P6	2
DC*FLELAPDFVGDILWEHLEILQK	C156 C112 C112 C112 C112	1.20651	P14921 P14921 P14921 P14921 P14921	2
C*NTDTFYFISSTTR	C318 C318 C318 C318	1.20305	Q8NB90 Q8NB90 Q8NB90 Q8NB90	2
LC*EPEVLNSLEETYSPPFR	C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261	1.20035	G3V516 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V516 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V516 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7	2
ELGAFGLQVPSSELGGVGLC*NTQYAR	C156 C134 C179 C156 C134 C179	1.19893	P49748 P49748 P49748 P49748 P49748 P49748	2
DAVFDGSSC*ISPTIVQQFGYQR	C27 C27 C27 C27	1.18531	P04049 P04049 P04049 P04049	2
LDNWLNELETYC*TR	C110 C223 C86 C139	1.17679	Q9NP72 H0Y6T8 A0A087 Q9NP72	2
LWQADC*SSRPLLAGYEDGSVVLWDVSEQK	C175 C175 C175	1.172416667	Q9BYB4 Q9BYB4 Q9BYB4	2
NESC*SENYTTDFIYQLYSEEGKGVFDC*R	C641 C664 C641 C664 C641 C664	1.161173333	Q01813 Q01813 Q01813	2
INPSETYPAFC*TTCFPSEPGLVGSVR	C425 C425	1.15107	Q96GW9 Q96GW9	2
QASVGAGIPYSVPAWSC*QMICGSGLK	C88 C117 C88 C117 C88 C117	1.150793333	Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1 Q9BWD1	3
DHQPC*IIFMDEIDAIGRR	C228 C242	1.142524839	P62333 A0A087	3

VQSLSPVPLSC*AAYR	C412 C412	1.141	Q96AD5 Q96AD5	2
IDC*FSEVPTSVFGEK	C384	1.13861	O00567	2
LLSNMMC*QYR	C156 C160 C160	1.13655	P28062 P28062	3
LLQC*DPSSASQF	C185 C185	1.1347275	P37235 P37235	2
LEKPNEGYLEFFVDC*SASATPEFEGR	C85 C85 C85 C85	1.134444286	Q15024 Q15024 Q15024 Q15024	3
IC*PIDITLAQR	C489 C365 C32	1.12548	P41214 P41214 A0A087	2
LLPVEPC*DLTEGFDPSPVPPR	C34 C34	1.115205	O14893 O14893	3
ADIEVAC*YGYEGIDAVK	C199 C199 C156	1.10407	G3V4T5 P05198 H0YJS4	2
LC*SGPGVGNVLDPSAR	C245 C245 C245 C245 C245 C245	1.097286	Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6 Q9Y5P6	2
QITSYGETC*PGLEQYAIKK	C430 C430 C411	1.09695	P50990 P50990 P50990	2
AC*ASPSAQVEGSPVAGSDGSQPAVK	C97 C249 C97 C249 C97 C249	1.0879	F8WDB4 Q9UFC0 F8WDB4 Q9UFC0 F8WDB4 Q9UFC0	3
ITNSLTVLC*SEK	C86 C158 C207 C153 C66 C86 C158 C207 C153 C66 C86 C158 C207 C153 C66	1.0839075	H0YJ7 O75822 O75822 O75822 H0YLP3 H0YJ7 O75822 O75822 O75822 H0YLP3 H0YJ7 O75822 O75822 O75822 H0YLP3	3
TYEQIKVDENENC*SSLGSPSEPPQTLDLVR	C151 C151	1.07867	A0A0C4DGQ6 Q96P16	2
YKDEGDLLITIFDSSDLFAIQC*SR	C80 C80	1.07495	Q92734 C9JUE0 Q05BK6 Q92734 Q92734 Q92734 C9JJP5 Q92734 C9JUE0 Q05BK6 Q92734 Q92734 Q92734 C9JJP5 Q92734 C9JUE0 Q05BK6 Q92734 Q92734 C9JTY3 Q92734 C9JJP5	2
TDLLDSESQSGVFLPELDEPEYC*NAQNTALWE LHALRR	C683	1.072515	Q8WTT2	2
AIYDTPC*IQAESEKWQALK	C235 C255 C235 C255	1.066475	O00232 O00232 O00232 O00232	2
AANSC*TSYSGTTLNLKEFEGLLAQMR	C140 C140 C140 C140 C140 C140 C140 C140 C140 C140 C140	1.06494	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0	3
RGNLNFTC*NGNSVISPVGNR	C24	1.04544	A0A0B4J2E5	2
AVQLGSLLVRGLTTLVLVNSAC*GFPWK	C802 C790 C813	1.04513	A0A0D9SEJ5 Q96EK7 F5GY05	2
LHTPMYFFLSNLSCVDIC*FTTSVAPQLLVTMNK	C72 C72 C72 C72 C72	1.02521625	Q5TZ20 Q5TZ20 Q5TZ20 Q5TZ20 Q5TZ20	3
GFAISC*TVEGAPASFGK	C33 C33 C33 C33 C33 C33 C33 C33 C33	1.012562	Q96EY5 Q96EY5 E9PJW8 Q96EY5 Q96EY5 Q96EY5 E9PQA6 Q96EY5 Q96EY5	3
AGAVVAVPTDTLYGLACAASC*SAALR	C99	1.007776667	Q86U90	2
TAC*TNFMMTPYVVTR	C177 C177 C177 C177	1.00677	P45984 P45984 P45984 P45984	2
THQPSDEVGTSIEHPREAEVMDAGC*QESAGPE R	C777	1.00548	Q99575	3
SDLYSSC*DR	C338 C338 C338	0.999823333	Q96E39 Q96E39 Q96E39	3
YNEAESDC*LQGFLTHSLGGGTGSGMGTLISK	C59	0.9938625	M0QYM7	2
IIVPFVTC*GDLSSYSDSR	C238 C236 C238 C236	0.99076	Q9UET6 Q9UET6 Q9UET6 Q9UET6	2
VVLPC*SVQEYQVGLYSVAEASK	C15 C13 C15 C13 C13 C13	0.98411	P48739 P48739 P48739 P48739 P48739 A0A0A0MSW4	2
VGVSVGQHTGEPVEELALSHC*GR	C306 C145 C88 C306 C145 C88	0.974805	Q9H6Y2 G3V1J0 Q9H6Y2 Q9H6Y2 G3V1J0 Q9H6Y2	2
FMLVLASNLPEQFDC*AINSR	C415 C461 C415 C461 C415 C461	0.97057	Q5T9A4 Q5T9A4 Q5T9A4 Q5T9A4 Q5T9A4 Q5T9A4	2

C*VDLVIQELINTVR	C427 C427 C427 C427 C427 C427	0.96753	P50570 P50570 P50570 P50570 P50570 P50570	2
DSGYGDIWC*PER	C176 C213 C228 C228 C137 C228 C228 C176 C176 C213 C228 C228 C137 C228 C228 C176	0.949456667	E9PMP7 J3KP06 Q8WWI1 Q8WWI1 E9PMS6 Q8WWI1 Q8WWI1 F8WD26 E9PMP7 J3KP06 Q8WWI1 Q8WWI1 E9PMS6 Q8WWI1 Q8WWI1 F8WD26	3
NLDKEYLPIGGLAEFC*K	C106 C106	0.94739	P00505 P00505	2
YSNVIFLEVDVDDCQDVASEC*EVK	C69 C69 C69 C69 C69	0.940016	P10599 P10599 P10599 P10599 P10599	3
AGEVVPAMYQFSQYVC*QQTGLQIPQLPAPPK	C82 C60 C82 C60 C82 C60 C82 C60	0.93422	A0A140TA86 K7EIR2 A0A140TA84 A0A140TA86 K7EIR2 A0A140TA84	2
SVDGSPPTAFTVLEC*EGSRR	C525 C550	0.926846667	M0R2P6 Q8TBC3	3
AFLDNPGLSELG*GTLR	C204 C297 C272 C204 C297 C272	0.92234	B4E1N1 B4E1N1	2
DVLKEEGVSFLINTFEGGGC*GQPSGILAQPTLLYL R	C1229	0.91315	P78527	2
EFOQNNWHAHGVC*GFR	C58 C47 C47 C58	0.90041	Q9NZL9 Q9NZL9 Q9NZL9 Q9NZL9	2
QLC*DNAGFDATNILNK	C450 C450	0.89558	Q99832 Q99832	2
HEEFCVPMVMVPATVSNNVPGSDFSIGADTALNT ITDTC*DR	C563 C563 C563	0.89233	Q01813 Q01813 Q01813	3
FQGSQGHISIPQDC*PAEAR	C70 C70	0.86715	P55199 P55199	2
YGDLDSSLISFGPC*QTPTLGFVER	C217 C217 C217 C217	0.85078	C9JEI7 O95985 O95985 O95985	2
YHEVHYILLDPSC*SGSGMPSR	C308 C270 C308 C308 C308 C270 C308 C308	0.819195	Q96P11 Q96P11 Q96P11 Q96P11 Q96P11 Q96P11 Q96P11 Q96P11	2
EKSEMPVSC*PFYIIR	C51	0.792075	Q9BW27	2
NTEMC*NVMMLQR	C774 C772 C774 C342 C772	0.79103	Q9H4L7 Q9H4L7 Q9H4L7 Q9H4L7 Q9H4L7	2
TAGQPEGGPGADFGQSC*FPAEAGR	C302 C258 C254 C302 C258 C254	0.779855	Q14694 Q14694 Q14694 Q14694 Q14694 Q14694	2
LYDVC*PHVSDSGLFFDDSYGFYQGLIGPAK	C244 C244	0.779655	Q9C0C9 Q9C0C9	2
PVMSGNTAYPVISC*PPLTPDWGVQDVWSSLR	C350 C350 C350	0.775735	P22234 P22234 P22234	2
SNPGFGGIAPHC*LDEGTVR	C240 C83 C237 C240 C83 C237	0.773285	Q7Z7K6 Q7Z7K6 Q7Z7K6 Q7Z7K6 Q7Z7K6 Q7Z7K6	2
LLYEALVDC*K	C175 C175	0.76913	Q7L2H7 Q7L2H7	2
LELLVGSPASC*MELELYGVDDKFYSK	C51 C34 C51 C51 C51	0.765123333	Q99426 K7EL99 K7EK42 Q99426 Q99426	2
LGIQGSYFCSQEC*FK	C40 C40	0.75728	P53582 P53582	2
PEIVDTC*SLASPASVCR	C8 C8 C8	0.74508	P09960 P09960 P09960	2
PWVLTCC*LLNLDDEDGLVAFSSDEELTMAMSY VKDDIFR	C86	0.74176	E3W990	2
ENMAYTVEC*LR	C125 C125 C125	0.73998	H3BSJ9 P22695 H3BRG4	3
LVEALC*AAGHR	C31 C31	0.73302	P23919 P23919	2
LIHDGC*LLWK	C523 C478 C450 C477 C523	0.726825	V9GYM8 Q92974 Q92974 Q92974 V9GYM8	2
VETCGC*AEGYAR	C221 C173 C194 C221 C173 C194	0.722015	O14972 A8MTY9 O14972 O14972 A8MTY9 O14972	2
EVDPPDSYVFVNTLTLTSEGC*LSDEQGMQNR	C987 C54 C987 C54	0.720673333	O60732 O60732 O60732 O60732	2
SKGFGFVC*FSSPEEATK	C314 C294 C339 C307 C339 C339 C339 C339 C241 C339 C339 C339	0.71369	A0A087WTT1 E7EQV3 P11940 E7ERJ7 P11940 Q13310 Q13310 B1ANR0 HOY5F5 Q13310 Q13310 Q13310 A0A087WTT1 E7EQV3	3

	C314 C294 C339 C307 C339 C339 C339 C339 C314 C294 C339 C307 C339		P11940 E7ERJ7 P11940 Q9H361 Q13310 Q13310 A0A087WTT1 E7EQV3 P11940 E7ERJ7 P11940	
INPVC*PADLVIDHSIQVDFNR	C118 C118	0.70878	P21399 P21399	2
NSFYMGTC*QDEPEQLDDWNR	C1907 C1893 C1891 C1907 C771 C1893 C1891	0.7082325	Q14980 Q14980 A0A087WY61 Q14980 Q14980 Q14980 A0A087WY61	2
APTYFC*GQTLTFR	C313 C309	0.707375	Q8IU8 Q8IU8	2
LESLQSMEMAHSGSLRDEL*LDPCDSPEK	C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270	0.705824444	B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86 B3KRD1 B7Z4D2 A0A0C4DG86	3
SLGTPEDGMAVC*MFMQNLTFRMSR	C52	0.704545	H0Y525	2
PFC*EQSELDDLEYIDLFSVIIHK	C277 C289	0.701595	Q9NVE5 Q9NVE5	2
C*PDGGDNADSSNTALNMPVPMNTIAEAVIEMI NR	C758	0.67736	O15294	3
ESESC*DCLQGFQLTHSLGGGTGSGMGTLISK	C127 C127 C127 C127 C127	0.659414444	Q9BVA1 Q13885 Q9BVA1 Q9BVA1 Q13885	3
DLIMDNC*EELIPEYLNfir	C178 C178	0.6311	Q58FG1 Q58FG1	2
ITNQVIYLNPPIEEC*R	C978 C978	0.62784	Q14204 Q14204	2
FQDTSQYVC*AELQALEQEQR	C1364 C1364 C1364	0.59382	Q8N3D4 Q8N3D4 Q8N3D4	3
TSAPITC*ELLNK	C1999 C1999	0.578705	Q14204 Q14204	2
C*LHNFLTDGVPAGAFTEDFQGLR	C316 C268 C316 C268 C316 C268 C316 C268 C316 C268 C316 C268 C316 C268	0.55313	G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764 G3V1A6 P57764	3
ALC*VISGVPGLKGDVTDTEQLAQEMLIISHHPSLV AVQSGLWPALLAR	C648 C648	0.54995	Q92616 Q92616	2
SQC*TPLFMAYTMR	C59 C97 C50 C59 C97 C50	0.545965	S4R3D6 S4R3D6	2
YEAAPFLSPC*GR	C143 C98 C143 C98	0.544875714	H0YF29 H0YF29	2
LPCIFIC*ENNR	C222 C260 C222 C191 C229 C260 C222 C260	0.537273333	P08559 P08559 P08559 P08559 P08559 P08559 P08559 P08559	3
FETFC*LDPSLVTK	C562	0.53466	Q9UHB9	2

IADFLNSFDMSC*R	C43 C43 C43 C43 REVERSE	0.531015	Q8WUW1 Q8WUW1 Q8WUW1 Q8WUW1	2
PFC*EDLDQWLSEDDNHVAAIHC*KAGK	C278 C297 C278 C297 C278 C297 C278 C297 C105 C124 C71 C90 C278 C297 C90 C109 C278 C297 C105 C124 C71 C90 C278 C297 C90 C109 C278 C297	0.51144	P60484 A0A0U1RR63 P60484 A0A0U1RR63 P60484 A0A087WT17 P60484 P60484 A0A0U1RR63 P60484 A0A087WT17 P60484 P60484 A0A0U1RR63	3
SIC*TTVLELLDKYLIANATNPESK	C94 C94 C94 C94	0.51138	P27348 P27348 P27348 P27348	3
TSGSDDPGIC*SNTDSTQAQVLLGK	C672 C637 C672 C637	0.50165	Q8NDI1 Q8NDI1 Q8NDI1 Q8NDI1	2
AC*GLNFADLMAR	C86	0.47973	Q99536	2
YNLSPSIFFCATPPDDGNLC*R	C109 C130 C109 C130 C109 C130	0.4746	H0YLA4 Q00796 H0YLA4 Q00796 H0YLA4 Q00796	3
FC*DNVWTFVLNDVEFR	C68 C68 C68 C68 C68 C68 C68	0.471872857	P52657 P52657 P52657 P52657 P52657 P52657 P52657	3
LSLLEEYGCC*K	C573 C573 C573	0.467136667	P53350 P53350 P53350	3
LEAIETQDPSLGCGLPLNC*TPIK	C178 C119 C178	0.45474	Q9NVP2 K7ES22 Q9NVP2	2
MGMAC*LTMTEMEGTSTSSIIYQNGDISGNANSM K	C5 C5	0.45381	O60674 O60674	2
VC*AKPWAPDMTLPGISPPPEK	C195 C195 C195 C195	0.45052	Q96FF9 Q96FF9	2
EGYTSFWNDC*ISSGLR	C84 C70	0.447513333	Q9H4A6 Q9H4A5	3
KC*PFGALSIVNLPNLEK	C65 C65	0.444045	P61221 P61221	2
VVEPYNATLSIHQLVENTDETYC*IDNEALYDIC*F R	C548 C558 C201 C211 C129 C139 C548 C558 C201 C211 C129 C139 C548 C558 C201 C211	0.383791429	A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509 Q13509 A0A0B4J269 Q13509	3
IFGSIPMQAC*QQK	C393 C393 C155 C155 C155	0.378365	Q6NZY4 Q6NZY4 Q6NZY4 F5H6J5	2
INEIVYFLPFC*HSELIQLVNK	C577 C371 C542 C513 C572 C527 C577 C371 C542 C513 C572 C527	0.35531	H0YGM0 Q9H078 Q9H078 Q9H078 Q9H078 Q9H078 H0YGM0 Q9H078 Q9H078 Q9H078 Q9H078 Q9H078	2
FLLADNLYC*K	C113 C108 C113 C108	0.353485	P61758 B4DWR3 P61758 B4DWR3	2
HLAEYTHVEAECPLTFDLDLLNRLEDLVC*D	C359	0.352375	O43776	2
ALSGYC*GFMAANLYAR	C888 C888 C888 C888	0.346146	P53618 P53618 P53618 P53618	2
VGAVGMAC*AISILMKDLADELALVDVIEDK	C35 C64	0.345033333	P00338 P00338	2
ATILDLSC*NK	C48 C48	0.33934	Q96AG4 Q96AG4	2
EIFLSQPILLELEAPLKIC*GIQEQLSGS	C33 C33	0.320685	F8WE71 F8WE71	2
LEEEDEDEEDGESGC*TFVLGLIQK	C405 C405 C405 C405	0.2970925	P17655 P17655 P17655 P17655	3
VGAPTIPDSC*LPLGMSQEDNQLK	C338 C349 C274 C338 C349 C274	0.291523333	Q92989 E9PL17 Q92989 Q92989 E9PL17 Q92989	2
NVC*LPPEMEVALTEDQVPALK	C552 C535 C535 C552 C535	0.28583	E7EVAO P27816 P27816 E7EVAO P27816	2
GLYAAFDC*TATMK	C850 C850 C850	0.272483333	P11498 P11498 P11498	3
FNLPHYQGISQDQLIC*SLQR	C170	0.251345	Q96M11	2
ECENC*DC*LQGFQLTHSLGGGTGSGMGTLLISK	C474 C476 C127 C129 C55 C57	0.235362857	A0A0B4J269 Q13509 Q13509	2

ARGGC*PGGEATLSQPPPR	C22	0.22496	P20290	2
NIFLVAATLRPETMFGQNTNC*WVR	C305 C305	0.17347	Q9P2J5 Q9P2J5	2
EGC*TVSPETISLNVK	C393 C394 C376 C430 C412 C375 C393 C394 C376 C430 C412 C375	0.171895	E5KLJ6 E5KLJ9 E5KLL1 E5KLJ5 O60313 O60313 E5KLJ6 E5KLJ9 E5KLL1 E5KLJ5 O60313 O60313	2
VVNSETPVVDFHAQWC*GPCK	C90 C90 C90 C90	0.15993	F8WDN2 Q99757 F8WDN2 Q99757	2
HMC*DGDIVIFNR	C451 C451 C451 C451 C451 C451	0.15187	A0A0C4DGZO A0A087WWE2 P24928 A0A0C4DGZO A0A087WWE2 P24928	2
AYSFAMGC*WPK	C152 C170 C167 C285 C76 C152 C170 C167 C285 C76	0.147215	H0Y4B0 O43414 F6QUN3 O43414 O43414 H0Y4B0 O43414 F6QUN3 O43414 O43414	2
GLSC*LVSQDDPLTK	C284 C280 C280 C284	0.140085	P52630 P52630 B4DLC8 P52630	2
STACQMLVC*YAK	C687 C705	0.138505	O00410 O00410	2
AMC*AMMSFEKQGVLIGNWTGDYEGGTAPYK	C217 C217	0.13737	P49221 P49221	2
LLTEC*PPMMDTEYTK	C853	0.136135	P55060	2
IQQNLHIVLIMDSANSNFMINC*ESNPALHKK	C2793 C2793 C2793 C2793	0.135185	Q8NCM8 Q8NCM8 Q8NCM8 Q8NCM8	2
VYQPVSC*PLSDLSENVESVVNEEK	C506 C566 C374 C251 C506 C566 C374 C251	0.120985	A0A0A0MTP7 Q99590 Q99590 A0A0A0MTP7 Q99590 Q99590	2
PNPRPVFGIC*LGHQLLALAIGAK	C252 C252 C252 C252	0.112365	P27708 P27708 P27708 P27708	2
LVMEYLAICDEC*YITEMEMLLNEK	C525 C525	0.09421	P41250 P41250	2
LEYC*EALAMLR	C349 C349	0.0942	P14868 P14868	2
LFVALQGC*MDK	C477 C455 C500 C477 C455 C500	0.086895	P49748 P49748 P49748 P49748 P49748 P49748	2
MEDSVGC*LETAEEVK	C1379	0.08578	P35579	2
AVAIPVFANGNIQCLQDVERC*LR	C220 C220 C88 C203 C220 C220 C220 C88 C203 C220	0.06964	J3QQZ0 J3QLE4 HOYGW8 J3QKP9 Q6P1R4 J3QQZ0 J3QLE4 HOYGW8 J3QKP9 Q6P1R4	2
LLAQDTCLPCDCFPHGSHSRCT*DMATGQCAC*K	C2015 C2024 C2015 C2024	0.068875	Q9NYQ6 Q9NYQ6	2
RSEQWATIEQLC*SEYPHPLPR	C556 C556	0.0652	Q8TAT6 Q8TAT6	2
LTGTKYGC GG GGC*GAC*TVMISR	C49 C52	0.04452	Q06278	2
C*GVPDVAQFVLTEGNPR	C92 C92	0.03669	P03956 P03956	2
ESNINLC*GSHC*GVSIGEDGPSQMALEDLAMFR	C413 C417 C413 C417 C421 C425 C413 C417 C413 C417	0.014808333	P29401 P29401 P29401 P29401 P29401	3
CAIIPSDMLHISTNC*R	C245 C214 C214 C220 C190 C253 C214 C245 C214 C214 C220 C190 C253 C214	0.014295	Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5 Q8N9N5	2
SALNVHC*K	C354 C273 C273 C354 C273 C273 C354 C273 C273	0.002153333	Q9NYT6 A0A087WT08 Q9UK13 Q9NYT6 A0A087WT08 Q9UK13 Q9NYT6 A0A087WT08 Q9UK13	2
FFAFWQDINNLTPLEC*GRESR	C80 C635 C735 C93 C93 C118 C635 C735 C635 C735	0	Q8NCN5 A8MT40 Q8NCN5 B7ZAR9 H3BV59 H3BUH3 A8MT40 Q8NCN5 A8MT40 Q8NCN5	2

CA-Lenalidomide

Peptide	Modified Residue	Avg. Ratio	Uniprot ID	seen in
QAFVFC*QTVIEDDCLPMDQFAVHLMPLLTLANDR	C848 C831	404.748612	Q8TF05	2
YFASRMFC*LR	C240	381.5120625	C9JZ99	3
GPDWSIPLDFVEQKC*EVFDDEEESK	C37	41.415215	B5MC35 B5MCA1 Q96G28 B5MD16	2
VSDTVVEPYNATLSVHQLVENTDETYC*IDNEALYDIFR	C201 C183	40.15623413	Q9BUF5 Q5JP53 Q9BVA1 P68371 P04350 P07437	3
QC*EGLEAPGGGK	C43	37.26463	Q9H3A6	2
ESNLQGC*HQSLGGMMDMGNPGLSPTKPGSQYYQYSSNNPR	C97 C51 C121	34.872955	A0A0D9 H3BPJ7 P15884 H3BUQ3 A0A0D9SG 55 H3BPJ7	2
VIGLTCALGSGMPLGKEGPFVHIASMC*AALLSK	C194 C150	31.84874333	P51788	2
NC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C474	21.31787444	A0A0B4J26 9	3
AVILDLLQEALTESGLTSQDIDC*I	C73	16.3128	Q9NPF4	3
SGDAAIVDMVPGKPMC*VESFSDYPPLGK	C409	12.29806	A0A087WV 01	3
NLANSC*GTGIR	C416	11.94731333	Q96RE7	3
VAASC*GAIQYIPELQVRK	C134	11.74299667	Q7L2H7	2
TGCHLLEVQNIITELC*R	C906	11.19496	Q6R327	2
FQSAAGALQEASEAYLVGLFEDTNLC*AIHAK	C111	10.45304	P84243 K7EK07	2
RVDDFEAGAAAGAAPGEEDLC*AAFNVIC*DNVVK	C98 C105	10.32559667	Q13158	3
EVCQPAFDAIDMAWPYFLDC*HR	C146 C135	9.297385	Q66K79	2
IAVAAQNC*YK	C67 C104	7.387655	P60174	2
C*CSGAIIVLTK	C423	6.589613333	P14618	3
VMALQEAC*EAYLVGLFEDTNLCAIHAK	C97	5.673446923	P68431	3
C*QWLYLEAADIVESLGKPECEEFLPR	C414	4.413218	A0AVT1	2
YNSDVIIVGVC*GER	C277 C244 C277 C244	3.90128	P38606 P38606 P38606 P38606	2
MC*DFGISGYLVDSVAK	C212 C178 C207	3.78972	P46734 P46734 P46734	2
HGYELQGREQLTCTQEGWDFQPPLC*K	C794 C737 C269 C737 C737 C794 C621 C269 C794 C621 C794 C723 C723	3.662065	P07202 P07202 A0A0G2 P07202 A0A0G2JR 31 A0A0G2JP 53 P07202 H7C1F5 A0A0G2JR Z1 A0A0G2JR 90 P07202 A0A0G2JR 79 H0Y6H4	2
VAHALAEGLGVIAC*IGEK	C127 C164 C127 C164	3.642836	P60174 P60174 P60174 P60174	3
AAAGELQEDSGLC*VLAR	C172	3.05671	Q96C19	2

VYC*IPFAEEDLSADALLNILSEVK	C770 C770 C770	3.009646667	A0AVT1 A0AVT1 A0AVT1	2
LC*WFLDEAAAR	C237	2.87896	O95336	2
SWC*PDCVQAEPVVR	C43 C43 C43 C43 C43 C43 C43 C43 C43 C43 C43 C43 C43 C43 C43	2.875830526	I3L3M7 Q9BRA2 I3L0K2 I3L3M7 Q9BRA2 I3L0K2 I3L3M7 Q9BRA2 I3L0K2 I3L3M7 Q9BRA2 I3L0K2 I3L3M7 Q9BRA2 I3L0K2	3
APNPCWSPSPCSLLAQCSVSPKGQAQCHCPENYHGDG MVC*LPK	C270 C270 C270 C270 C270 C270	2.868043333	Q9NY15 Q9NY15 Q9NY15 Q9NY15 Q9NY15 Q9NY15	2
TCLPAPC*PSSSNISLWNILR	C520 C489 C484 C520 C453 C489	2.80697	Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5 Q9H4L5	2
LTVVDTPGYGDAINC*R	C146 C111	2.757624615	Q15019 Q15019	3
AILFSQPLQITDTQQGC*IAPVELR	C716 C716	2.742026667	Q8NBF2 Q8NBF2	3
VC*EEIAIIPSKK	C35 C35	2.71155	P08708 P08708	2
WC*NVQSTQDEFEELTMSQK	C59 C59 C59 C59 C59 C59	2.672726	D6RFG8 P27707 D6RFG8 P27707 D6RFG8 P27707	2
ISAFGYLEC*SAK	C159 C159 C159	2.6574675	P08134 Q5JR08 E9PQH6	3
TPGAATASASGAAEDGAC*GCLPNPGTFEECHRK	C74 C74 C74 C74	2.647623333	O96008 O96008 O96008 O96008	2
SC*SPLAFSAFGDLTIK	C231 C191 C92 C231 C191 C92	2.615985	Q96EY5 Q96EY5 E9PLZ8 Q96EY5 Q96EY5 E9PLZ8	2
NIC*FTVWDVGGQDK	C62 C62 C62	2.59914	P84085 P84085 P84085	3
DNEVDFQEYCVFLSC*IAMMCNEFFEGFPDKQPR	C81 C81	2.584349286	P26447 P26447	3
ELEAVC*QDVLSLLDNYLIK	C97 C97	2.582255	P61981 P61981	2
YWLC*AATGPSIK	C249 C249 C249	2.557981667	P63244 P63244 P63244	3
DIC*NDVLSLLEK	C94 C94 C94	2.53781	P63104 P63104 P63104	3

GTSQADC*AVLIVAAGVGEFEAGISKNGQTR	C111 C111 C111 C111 C111 C111 C111	2.486714545	P68104 P68104 A0A087WV 01 Q05639 P68104 A0A087WV 01 Q05639	3
TAFQEALDAAGDKLVVDFSATWC*GPCK	C32 C32 C32 C32 C32 C32 C32	2.435152407	P10599 P10599 P10599 P10599 P10599 P10599 P10599	3
NGLQSC*PIKEDSFLQR	C1058 C1058	2.334815	P00533 P00533	2
VDSTTC*LFPVEEK	C246 C264 C246 C264	2.30254	Q06210 Q06210 Q06210 Q06210	2
VIEQLGTPC*PEFMKK	C245 C245 C245 C245 C283 C283 C245 C196 C245 C245 C245 C245	2.268155	P45983 P45983 P45983 P45983 P53779 P53779 P53779 H0Y9H3 P45983 P45983 P45983 P45983	2
HGEVC*PAGWKPGSETIIPDPAGK	C245 C245	2.261555	Q13162 Q13162	2
FRCPEALFQPSFLGMESC*G	C272 C272 C272 C272	2.248597778	P60709 P63261 P60709 P63261	2
QGFGNLPIC*MAK	C863 C906 C907 C841 C863 C906 C907 C841 C863 C906 C907 C841	2.18824	P11586 Q6UB35 B7ZM99 A0A087WV M4 P11586 Q6UB35 B7ZM99 A0A087WV M4 P11586 Q6UB35 B7ZM99 A0A087WV M4	3
IGTSGGIGLEPGTVVITEQAVDTC*FK	C162 C162 C162 C162	2.150512	Q16831 Q16831 Q16831 Q16831	3
AEVLIVGPEDC*VVPFLTRPK	C38 C38 C38	2.141622	P56192 P56192 P56192	3
VQENSAYIC*SR	C585 C585	2.127213333	Q9Y3T9 Q9Y3T9	2
IDRPFAC*PIPLSSSFGR	C66 C66	2.12418	Q8IZF5 Q8IZF5	2
ATQWGSFYSPAQTANNPC*SR	C532 C1748 C532 C1748 C1748 C1748	2.10857	Q9HCM3 Q9HCM3 Q9HCM3 Q9HCM3 Q9HCM3 Q9HCM3	2

FSIYNLNEALNQGETVLDLDMADLC*SIEQELSSIGSGN SKR	C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 C94	2.10744	Q70E73 Q70E73 Q70E73 Q70E73 C9K0J5 C9J164 Q70E73 Q70E73 Q70E73 Q70E73 Q70E73	2
IC*DQWDALGSLTHSR	C499 C499 C499	2.1024625	O43707 O43707 O43707	3
SVVC*QESDLPDELLYGR	C187	2.090795	Q9NS86	2
DEFTNTC*PSDKEVEIAYS DVAK	C234 C234	2.03033	Q9Y696 Q9Y696	3
TC*LSQLLDIMK	C244	2.02835	P51946	2
VVVAENFDEIVNENKDV LIEFYAPWC*GHCK	C406 C406	2.027598571	P30101 P30101	3
GFAGVC*GFGGPYGETVATGPYR	C892 C920 C892 C920	2.01279	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2	2
TC*VPADINKEEFVEEFNR	C12	1.9722	P98170	2
NC*TAGAVYTYHEK	C8 C8 C8 C8 C8 C8 C8 C8 C8 C8 C8	1.952355	A0A075B6F 9 M0R1K2 M0R3B2 Q9Y314 A0A075B6F 9 M0R1K2 M0R3B2 Q9Y314 M0R1T7	2
AAVEEGIVLGGGC*ALLR	C442 C442 C442 C442 C442 C442 C442 C442	1.9418168	P10809 P10809 P10809 P10809 P10809 P10809 P10809 P10809	3
SGDAAIVDMVPGKPMC*VESFSDYPLGR	C411 C390 C411 C411 C411 C411 C390	1.915760202	P68104 P68104 P68104 P68104 Q5VTE0 P68104 P68104	3
LPITVLNGAPGFINLC*DALNAWQLVK	C241 C241 C240	1.900145	P31939 P31939 P31939	2
TYAIC*GAIR	C56 C56 C56 C56 C56 C56 C56 C56 C56 C56 C56 C56	1.863678571	Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220 Q9BYK1 Q8WVC2 P63220	3
TSGLMTRHC*TANGTWTGTAPDCTIISCGDPGLANGIQ FGTDFTFNK	C2881 C3020 C3019 C3020 C2437 C2881 C3020 C3019 C3020 C2437	1.85879	F5GZ18 Q96PZ7 A0A0U1RQ Y1 E5RIG2 F5GZ18	2

			Q96PZ7 A0A0U1RQ Y1 E5RIG2	
ELEVLLMC*NK	C91 C91 C109 C91 C91 C109 C91 C91 C109 C91 C91 C109 C91 C91 C109	1.83124	D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727 D3YTB1 P62910 F8W727	3
LSIPTYGLQC*TR	C2273 C2273	1.82613	P49327 P49327	2
GC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374	1.823646	P22234	3
VTDGALVVDCVSGVC*VQTETVLR	C136 C136	1.813921923	P13639 P13639	3
ISLGLPVGAVINC*ADNTGAK	C28 C28	1.803836	P62829 P62829	3
GC*WDSIHVVEVQEK	C147 C176 C147 C135 C147 C147 C147 C147	1.75645875	P47756 B1AK88 P47756 B1AK87 P47756 P47756 P47756 P47756	3
VIIVQAC*R	C258 C202 C211 C258 C202 C211 C328 C257 C315 C245 C258 C202 C211 C258 C202 C211	1.75406	P49662 P49662 A0A087WZ P8 P49662 P49662 A0A087WZ P8 P51878 P51878 P51878 P51878 P49662 P49662 A0A087WZ P8 P49662 P49662 A0A087WZ P8	3
VLPNLPC*VVQEGAIVMAR	C129 C141 C129 C141	1.735342857	Q53H96 A0A0A0MQ S1 Q53H96 A0A0A0MQ S1	3
QLFALSC*TAEQGVLPDDLGVIR	C96 C112 C96 C75 C60 C96 C112 C96 C75 C60 C112	1.7325825	P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899 P04899	2
LLSALC*PEEPPVHSSAQIVSK	C334 C334 C334	1.72969	Q9NR50 Q9NR50 Q9NR50	2

AEGSDVANAVLDGADC*IMLSGETAK	C358 C358 C358 C193 C358 C358	1.721208182	P14618 P14618 P14618 H3BR70 P14618 P14618	3
IGFPETEEEELEEIASENSDC*IFPSAPDVKA	C340 C353 C340 C353	1.698524545	Q9Y3F4 Q9Y3F4 Q9Y3F4 Q9Y3F4	3
GTVLLADNVIC*PGAPDFLAHVR	C223 C173 C223 C173	1.695835	P21964 P21964 P21964 P21964	3
ICELLPEAAINDVYLAPLLQC*LIEGLSAEPR	C310 C455 C455	1.694585	Q14974 Q14974 Q14974	3
MC*DFTEDQTAEFK	C2 C2	1.67822	P60660 P60660	2
VC*ISILHAPGDDPMGYESSAER	C89 C61	1.664456667	P60604 P60604	2
ARDC*LIPMGITSENVAER	C136 C177 C136 C177	1.6522525	C9JDE9 P09110 C9JDE9 P09110	3
VLTMPETC*R	C867 C898	1.616	Q99460 Q99460	2
NAGNC*LSPAVIVGLLK	C335 C369 C335 C369 C335 C369	1.599316364	Q5SZU1 O43175 Q5SZU1 O43175 Q5SZU1 O43175	3
KTYITDPVSAPC*APPLQPK	C342 C364 C342 C364	1.598505	A0A087WZ F1 Q93052 A0A087WZ F1 Q93052	2
NFNYHILSPC*DLSNYTDLAMSTVK	C498 C461 C498	1.580496667	Q9UKF6 G5E9W3 Q9UKF6	3
SLREC*ELYVQK	C18 C18	1.5732725	P10644 P10644	3
DVVSQALDGYNGTIMC*YGQTGAGKTYTMMGATENYK	C91 C91 C91 C91 C91 C91	1.56087	Q9HAQ2 Q9HAQ2 Q9HAQ2 C9JWZ7 B4DZK5 Q9HAQ2	2
FC*NIMGSSNGVDQEHSNVVK	C150 C150	1.54199	Q9NYL9 Q9NYL9	2
AINC*ATSGVVGLVNCLR	C1448 C1448 C1448 C1448 C1448	1.538442941	P49327 P49327 P49327 P49327 P49327	3
EALAEASAWC*YLYGTGSVAGVYLPGSR	C3684 C3688 C3652 C3670 C3662 C3821 C3711 C3688 C3670 C3652 C3684 C3684 C3662	1.537645	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	2

VQVSDPESTVAVAFPTIPHC*SMATLIGLSIK	C93 C93 C55 C93 C93 C55	1.53299375	Q9Y3D0 H3BNV7 J3KS95 Q9Y3D0 H3BNV7 J3KS95	3
AEPPQC*TSLAWSADGQTLFAGYTDNLVR	C286 C286	1.531038	P63244 P63244	3
NNQESDC*VSK	C33 C297	1.51503	H3BV17 A6NDG6	2
LANTC*FNEIEK	C241 C197	1.511075	Q9NP61 Q9NP61	2
VPTANVSVVDLTC*R	C247 C247 C247 C247 C205	1.493335	P04406 P04406 P04406 P04406 P04406	3
LC*YVALDFEQEMATAASSSLEK	C217 C217 C217 C217 C217 C217 C217 C217 C917 C917 C917 C917 C217 C217 C217 C217 C217 C217 C217 C217 C917 C917 C917 C917 C217 C217 C217 C217 C917 C917 C917 C917	1.482800811	P60709 P63261 P60709 P63261 P60709 P63261 P60709 P63261 Q6S8J3 Q6S8J3 Q6S8J3 Q6S8J3 P60709 P63261 P60709 P63261 P60709 P63261 P60709 P63261 Q6S8J3 Q6S8J3 Q6S8J3 Q6S8J3 P63261 P63261 P63261 Q6S8J3 Q6S8J3 Q6S8J3 Q6S8J3 Q6S8J3 Q6S8J3 Q6S8J3	3
HIEALLGSPC*GK	C81 C81	1.478965	P49589 P49589	2
HFLSDTGMAC*R	C119 C69 C119 C119	1.468474286	Q5TFE4 Q5TFE4 Q5TFE4 Q5TFE4	3
KVAEPELMGTPDGTG*YPPPPVPR	C1889 C1826 C1889 C1826	1.433848182	P27708 F8VPD4 P27708 F8VPD4	3
EIITLQLGQC*GNQIGFEFWK	C13 C13 C13	1.433315	P23258 Q9NRH3 P23258	2
SDVC*TPGGTTIYGLHALEQGLR	C235 C247	1.430557	Q53H96 A0A0A0MQ S1	3
INPSETYPAFC*TCFPEPGLVGPSVR	C425	1.42629	Q96GW9	2
YATTGKC*ELENCQPFVETLHGK	C100	1.422575	Q06203	2
TRDGSDYEGWC*WPGSAGYPDFTNPTMR	C502 C502 C524 C502 C524	1.41122625	Q14697 Q14697	3

			Q14697 Q14697 Q14697	
ILLNACC*PGWVR	C227 C227 C227	1.406094286	P16152 P16152 P16152	3
SNELGDVGVHC*VLQGLQTPSCK	C75 C75	1.400498	P13489 P13489	3
RTIQFVDWC*PTGFK	C347 C347 C371	1.391053333	Q71U36 Q13748 C9J2C0	3
GDFYVIEYAAC*DATYNEIVTLER	C109 C109	1.3854	P51116 P51116	3
EANTLNLAPYDAC*WNAC*R	C281 C285 C281 C285 C281 C285 C281 C285 C281 C285 C281 C285	1.383796667	Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50 Q9NR50	2
AGQC*VIGLQMGTNK	C185 C164 C101 C185 C164 C185 C153 C164	1.3771175	B4DUT8 Q99439 A0A087 B4DUT8 Q99439 B4DUT8 B4DDF4 Q99439	3
LPC*EMDAQGPK	C196 C187 C196 C187	1.369215	Q9UGI8 Q9UGI8 Q9UGI8 Q9UGI8	2
ENFSLDWC*K	C117 C117	1.364512	P23919 P23919	3
TDC*SPIQFESAWALTNIASGTSEQTK	C133 C133	1.360776	P52292 P52292	3
LALFNPDVC*WDRNNPEPWNK	C44	1.3539	O00483	3
VQTDAFVSNELDDPDDLQC*K	C465 C462 C485 C464 C486	1.35077	Q9UI10 A0A087WT A5 Q9UI10 Q9UI10 E7ERK9	2
ENFDEVVNDADIILVEFYAPWCGHC*KK	C209	1.350515	P13667	2
VLQFNEVGANAVTPMPENFTSC*GFMQQIQK	C79 C79	1.35034	P05120 P05120	3
RPYEDQGLGETTPLTIIC*QPMQPLR	C367	1.3484325	Q8TF42	3
NLSFFLTTPC*AR	C492 C494 C492 C492 C494 C492	1.343175	P42224 J3KPM9 P42224 P42224 J3KPM9 P42224	2
IPVEQFHSPMLAFEFIQFC*RDNLHLFSGHLSTLR	C414 C258 C414 C414	1.33745	O43299 O43299 O43299 O43299	2
KAC*GDSTLTQITAGLDPVGR	C25	1.337176667	P62879	2
VGMGSGSIC*ITQEVLACGRPQATAVYK	C331 C331	1.326428182	P12268 P12268	3
SLLETNEIPSLILWGPPGC*GK	C272 C52 C272	1.32637	Q96S55 Q96S55 Q96S55	2
AGAVVAVPTDTLYGLACAASC*SAALR	C99 C99 C99	1.324034286	Q86U90 Q86U90 Q86U90	3
LEKPNEGYLEFFVDC*SASATPEFEGR	C85 C85	1.323746364	Q15024 Q15024	3

VC*ENIPIVLCGNK	C130 C112 C108 C129 C130 C112 C108	1.323519	J3KQE5 P62826 F5H018 B5MDF5 J3KQE5 P62826 F5H018	3
QASVGAGIPYSVPAWSCQMIC*GSGLK	C92 C92 C92	1.322784	Q9BWD1 Q9BWD1 Q9BWD1	3
GIGMNEPLVDC*EGYPR	C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59 C59	1.322181429	O00233 J3KN29 O00233 F5H5V4 O00233 J3KN29 O00233 F5H5V4 O00233 J3KN29 O00233 F5H5V4 O00233 J3KN29 O00233 F5H5V4	3
IIDLEEAEDEIEDIQEITVLSQC*DSPYVTK	C89 C77 C77	1.31597	Q9Y6E0 B4DR80 Q9Y6E0	2
RTTLC*GTLDYLPPEMIEGR	C290 C290	1.31566	O14965 O14965	2
LPSPDC*PFPR	C148 C148 C148	1.3114	P29279 P29279 P29279	2
SRYPVCGSDGTTYPSC*QLR	C131 C131 C131 C131	1.303596667	Q16270 Q16270 Q16270 Q16270	2
VPFLVLEC*PNLK	C14 C14 C14 C14 C14 C14 C14 C14 C14	1.303253333	Q9NRP0 Q9NRP0 A0A087WU D3 Q9NRP0 Q9NRP0 A0A087WU D3 Q9NRP0 Q9NRP0 A0A087WU D3	3
YEAAPFLSPC*GR	C143 C98 C143 C98	1.2954	H0YF29 H0YF29	2
QVQSLTC*EVDALK	C328	1.295175714	P08670	3
SLHDALC*VLAQTVK	C395	1.290506667	P78371	3
ESESC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C127	1.285275	Q9BVA1	2
NWYVQPSC*ATSGDGLYEGLTWLTSNYK	C155 C155 C155	1.283798182	P62330 P62330 P62330	3
LNIIISNLDC*VNEVIGIR	C390 C390 C275 C402 C402 C357 C275 C402 C402 C357 C390 C390 C275 C402 C402 C357 C275 C402 C402 C357 C390 C390 C402 C402 C357 C402 C402 C357	1.28329	P30153 P30153 P30154 P30154 P30154 P30154 P30154 P30154 P30154 P30154 P30154 P30154	3

			P30153 P30154 P30154 P30154 P30154 P30154 P30154 P30154 P30154 P30153 P30153 P30154 P30154 P30154 P30154 P30154	
KC*PFYAAEQDK	C265 C319 C265 C319	1.276286667	P30519 A0A087WT 44 P30519 A0A087WT 44	2
YMACC*LLYR	C316 C316 C316 C323 C283 C316 C316 C316 C323 C283 C316 C316 C301 C316 C323 C283	1.27506	P68366 P68363 Q71U36 A6NHL2 A6NHL2 P68363 Q71U36 P68366 A6NHL2 A6NHL2 P68363 Q71U36 P68366 P68366 A6NHL2 A6NHL2	3
VVFIKPTC*PYCR	C23 C23 C23	1.270252222	P35754 P35754 P35754	3
GSSC*FECTHYQSFLYR	C238 C188	1.267613333	P21964 P21964	2
VVTAGAIIPFPLAPGQSLPDSLMLQFGGATPWTPLSAC*G EPSGTR	C403	1.26497	Q9BUK6	2
HFLIEC*TPK	C1241 C1241	1.2629875	Q68CZ2 Q68CZ2	3
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C198 C173	1.260785	MOR383 MOR0Y4 MOQYS6 Q03405 Q03405 MOQYR6	2
NCAVSC*AGEKGGVAEACPNI	C141 C141 C141 C141	1.259724	Q15813 Q15813 Q15813 Q15813	2
VQPQWSPAGTQPC*R	C110 C110	1.25884625	P49589 P49589	3
QPPWC*DPLGPFVVGEDLDPFGR	C185 C185 C185 C185 C185 C185 C185 C185 C185 C185	1.256332	Q5QPM7 Q92530 Q5QPM7 Q92530 Q5QPM7 Q92530 Q5QPM7 Q92530 Q5QPM7 Q92530	3

IKSGEEDFESLASQFSDC*SSAK	C113 C113 C113 C113 C113	1.247876829	Q13526 Q13526 Q13526 Q13526 Q13526	3
EENVGLHQTLTDQTLNELNC*I	C283 C109 C247 C283 C109 C247 C283 C109 C247	1.2460775	P67936 K7EPB9 P67936 P67936 K7EPB9 P67936 P67936 K7EPB9 P67936	3
GNVAGDSKNDPPMEAAAGFTAQVILNHPGQISAGYAPV LDC*	C363 C342 C361 C363 C361	1.244846667	P68104 P68104 A0A087WV 01 P68104 A0A087WV 01	3
FQGIKHEC*QANGPEDLNR	C118 C135 C118 C135	1.24371	P60981 P60981 P60981 P60981	2
ITVVGQVGMAC*AISILGK	C36 C36 C36	1.24182	P07195 P07195 P07195	2
QC*TGLQGFLVFHSFGGGTSGGFTSLLMER	C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C129 C114 C129	1.240028889	P68366 P68366 P68363 P68363 Q71U36 Q71U36 P68363 Q71U36 P68366 P68363 Q71U36 P68366 P68366	3
AETGKCPALYWLSGLTC*TEQNFISK	C56 C56	1.23950875	P10768 P10768	3
IVGIGYNGMPNGC*SDDVLPWR	C71 C60 C71 C60 C71 C60	1.235161111	P32321 P32321 P32321 P32321 P32321 P32321	3
LC*YVALDFENEMATAASSSSLEK	C219 C219 C219 C219 C219 C219 C219 C219	1.229100833	P68032 P68133 P68032 P68133 P68032 P68133 P68032 P68133	3
AYSSWPTYPLYVSGELIGGLDIKELEASEELDTIC*PK	C229 C229 C229	1.22885	O76003 O76003 O76003	2
KIPC*DVTEAEIISLGLPFGK	C40 C74 C71 C37 C40 C68	1.226	O95758 O95758 O95758 O95758 O95758 O95758	2
TTYQALPC*LPSMYGYPNR	C975 C975	1.22034	P53621 P53621	2
VVSGMVNC*NDDQGVLLGR	C230 C230 C230 C230	1.22032375	P21980 P21980	3

			P21980 P21980	
GSDC*GIVNVNIPTSGAEIGGAFGGEK	C478 C450 C478 C450	1.218246	P49419 P49419 P49419 P49419	3
GC*IVDANLSVLNLVIVK	C100 C100 C100 C100 C100 C100	1.217126667	P62753 P62753 P62753 P62753 P62753	3
SCSSC*AVHDLIFWR	C46	1.216575	O95197	3
WNDNC*PSWNTIDPEER	C301 C301 C301 C301	1.214326154	P17655 P17655 P17655 P17655	3
VFIGKDCIGGC*SDLVSLQSGELLTR	C83 C83	1.2140025	P35754 P35754	3
FQSSAVMALQEASEAYLVGLFEDTNLC*AIHAK	C111 C111 C111	1.210005	Q71DI3 Q71DI3 Q71DI3	2
GC*GVVKFESPEVAER	C694 C694	1.208623333	P52272 A0A087	2
LLGPTVMLGGC*EFSR	C667	1.2067	Q8N9T8	2
ENFDEVVNDADIILVEFYAPWC*GHCK	C206 C206 C206 C206 C206 C206	1.205805	P13667 P13667 P13667 P13667 P13667 P13667	3
AVQDLC*GWR	C428 C428	1.204145	Q9P258 Q9P258	2
NC*NDFQYESK	C112 C112 C112	1.20362	Q04917 Q04917 Q04917	3
HELQANC*YEEVKDR	C122 C139 C177 C122 C139 C177 C122 C139 C177 C122 C139 C177	1.202023158	G3V1A4 P23528 E9PK25 G3V1A4 P23528 E9PK25 G3V1A4 P23528 E9PK25 G3V1A4 P23528 E9PK25	3
TDICQGALGDC*WLLAAIASLTLNEEILAR	C105 C105 C105 C105 C105 C105	1.201065556	P17655 P17655 P17655 P17655 P17655 P17655	3
TTSFAESC*KPVQQPSAFGSMK	C14 C14	1.198236667	P49841 P49841	2
AGAIAPC*EVTVPAQNTGLGPEK	C119 C119 C119	1.196216667	P05388 P05388 P05388	3
ECISIHVGQAGVQIGNAC*WELYCLEHGIQPDGQMPSD K	C20 C20 C20 C20 C20 C20	1.1941	P68363 Q71U36 Q13748 P68363 Q71U36 Q13748	2
TAC*TNFMMTPYVVTR	C177 C177 C177 C177 C177 C177 C177 C177 C177	1.190171667	P45984 P45984 P45984 P45984	2

			P45984 P45984 P45984 J3KNK1 P45984	
TDVNKIEEFLEEVLC*PPK	C100 C100	1.18444	Q9Y696 Q9Y696	3
HTLDGAAC*LLNSNK	C170 C102 C113 C134	1.18294	S4R3N1 Q9Y3A3 Q9Y3A3 Q9Y3A3	2
FASGGC*DNLIK	C190 C233 C173 C173 C187 C190 C233 C173 C187	1.182476667	A0A0C4DF R6 P55735 P55735 P55735 A0A0C4DF R6 P55735 P55735 P55735	2
VLLSICSLLC*DPNPDDPLVPEIAR	C111 C111 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105	1.18162	P61077 P61077 D6RFM0 A0A087WY 85 P62837 P62837 P61077 A0A0A0MQ U3 D6RAH7 P61077 P61077 H9KV45 D6RFM0 A0A087WY 85 P62837 P62837 P61077 A0A0A0MQ U3 D6RAH7 P61077 P61077 H9KV45	3
VHVGQAGVQMGNAC*WELYCLEHGIQPDGQMPSDK	C20 C20	1.180023333	P68366 P68366	2
VNQAIWLLC*TGAR	C85 C176 C155 C155 C85 C176 C155 C155	1.179734286	M0QZN2 M0R0R2 M0R0F0 P46782 M0QZN2 M0R0R2 M0R0F0 P46782	3
FSFCC*SPEPEAEAEAAAGPGPCER	C27 C27 C27 C27 C27	1.176972308	Q13501 E3W990 Q13501 E3W990 Q13501	3
LLSNMMC*QYR	C156 C160 C160 C156 C160 C160 C156 C160 C160	1.1735275	P28062 P28062 P28062 P28062 P28062 P28062	3
EVIQSDSLWLVEFYAPWC*GHCQR	C55 C103 C107 C60 C52 C55 C103 C107 C60 C52	1.172612857	Q15084 Q15084 Q15084 Q15084 Q15084	2

			Q15084 Q15084 Q15084 Q15084 Q15084	
CPEALFQPSFLGMESC*GIHETTFNSIMK	C272 C272 C272 C272 C272	1.167855	P60709 P63261 P60709 P63261 P63261	3
VC*FGIQLLNAVSR	C218 C208 C188 C218 C208 C188	1.1638075	A0A0C4DF N3 Q99685 Q99685 A0A0C4DF N3 Q99685 Q99685	3
VILPGMTACIECTLELYPPQVNFPMC*TIASMPR	C237 C223 C237 C223 C237 C223	1.1637125	Q8TBC4 Q8TBC4 Q8TBC4 Q8TBC4 Q8TBC4 Q8TBC4	2
VSC*AGQMLEVQPGLYFGGAAVAEPDHLR	C23 C23	1.162034286	Q9UNI6 Q9UNI6	3
GC*LLYGPPGTGK	C170 C184 C170 C184 C170 C184	1.16097125	P62333 A0A087 P62333 A0A087 P62333 A0A087	3
SCFLCMVC*K	C40 C40 C40 C40	1.15632	P21291 P21291 P21291 P21291	3
C*SEGSFLLTFFRPVTVPEMDQLDDEEGLPEK	C208 C208 C208 C208	1.154595714	Q15233 Q15233 Q15233 Q15233	3
STC*SLTPALAAHFSENLIK	C450 C508 C553 C401 C450 C508 C553 C401	1.15425	Q9BTA9 Q9BTA9 Q9BTA9 A0A0AOMR T2 Q9BTA9 Q9BTA9 Q9BTA9 A0A0AOMR T2	2
VDDEILGFISEATPLGGIQAASTESC*NQQLDLALCR	C561 C561 C561 C561	1.1531475	P42166 P42166 P42166 P42166	3
LNPTYEEQDC*GPPGRPPR	C397 C313 C397 C313	1.150645	Q6ZV89 Q6ZV89 Q6ZV89 Q6ZV89	2
AVAILC*NHQR	C630 C630	1.150293333	P11387 P11387	2
TPC*NAGTFSQPEK	C129 C129 C129 C129 C129 C129	1.1489	J3QT28 O43684 O43684 J3QT28 O43684 O43684	2
C*ASQAGMTAYGTR	C173	1.148710833	Q15417	3
TDETYCIDNEALYDIC*FR	C211 C193 C211 C211 C211 C558 C193 C211 C211 C211 C211 C211	1.143893889	Q9BUF5 Q5JP53 Q9BVA1 P68371 P04350	3

			A0A0B4J26 9 Q5JP53 P68371 Q9BUF5 Q9BVA1 Q13509 P04350	
KTFVGT*PC*WMAPEVMEQVR	C191 C191 C237 C218 C237 C218 C191 C191 C237 C218 C191 C191	1.13916	C9JIG9 O95747 Q9UEW8 Q9UEW8 Q9UEW8 Q9UEW8 C9JIG9 O95747 Q9UEW8 Q9UEW8 C9JIG9 O95747	3
NTVLC*NVVEQFLQADLAR	C70 C70 C70	1.13796	Q14258 Q14258 Q14258	3
LWNEW*CR	C106 C106 C106 C106 C106	1.135913333	O95456 O95456 O95456 O95456 O95456	3
GVPGAIVNVSSQC*SQR	C138	1.134785	Q7Z4W1	2
C*NYLALVGGGK	C63 C63	1.13336	Q5MNZ6 Q5MNZ6	2
LAESLARPC*APGAPAEAR	C103 C103	1.13232	P26022 P26022	2
LLPAITILGC*R	C389 C442	1.131672222	Q96IJ6 Q96IJ6	3
QALVNC*NWSSFNDETCLMMINMFDKTK	C146	1.12938	Q9UBV8	2
AVC*MLSNTTAIAEAWAR	C376 C376 C376 C376 C400	1.129035313	P68366 P68363 Q71U36 Q13748 C9J2C0	3
ANSWFNC*R	C466	1.1276525	P03956	2
EWNLPPNAPAC*MER	C26 C26 C26	1.12495	Q9BQA1 Q9BQA1 Q9BQA1	3
AHEILPNLVC*CSAK	C148	1.12442	P50990	2
SVQFVDWC*PTGFK	C354 C314 C354 C314	1.12251	A6NHL2 A6NHL2 A6NHL2 A6NHL2	2
EACPELDYFVVFSSVSC*GR	C2024	1.12139	P49327	3
YATSCYSCC*PR	C144 C173 C144 C173	1.119795	Q13057 Q13057 Q13057 Q13057	2
FFACAPNYSYAALCEC*LR	C513 C513	1.119655	Q96RS6 Q96RS6	2
LNEC*VDHTPK	C192	1.113355	P78417	2
LQDAFSSIGQSC*HLDLPQIAVVGQSAGK	C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27	1.113026667	P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570 P50570	3

			P50570 P50570 P50570 P50570	
NQC*LFTNTQCK	C68 C68 C68 C68 C93 C68 C68 C68 C68 C68 C93 C68	1.111705	Q9UL40 D6RJ07 B7Z6B6 Q9UL40 Q9UL40 B7Z6Q2 Q9UL40 D6RJ07 B7Z6B6 Q9UL40 Q9UL40 B7Z6Q2	2
LVAFC*PFASSQVALENANAVSEGVDLDR	C52 C52	1.110076	O00567 O00567	3
VPADTEVVC*APPTAYIDFAR	C42 C79 C42 C79	1.109188	P60174 P60174 P60174 P60174	3
GIFPVLK*KDPVQEAWAEDVDLR	C474 C474 C474	1.107838333	P14618 P14618 P14618	3
VLGLGLGC*LR	C88 C88 C75 C88 C88 C88 C75 C88 C88 C75 C88 C88	1.10626	Q9BRJ7 K7ENA3 K7EIN2 Q9BRJ7 W4VSQ8 Q9BRJ7 K7EIN2 Q9BRJ7 K7ENA3 K7EIN2 Q9BRJ7 W4VSQ8	3
IHMGC*AENTAK	C196 C196 C196	1.10567	P24752 P24752 P24752	3
SPWLAGNELTVADVVLWSVLQQIGGC*SVTVPANVQR	C291 C291	1.10056	Q13155 Q13155	2
MYGISLC*QAILDETKGDYK	C324 C324 C324 C324 C324 C324	1.100557813	P04083 P04083 P04083 P04083 P04083 P04083	3
VGIGPGSVC*TTR	C186 C158 C204 C204 C186 C186 C204 C204 C186 C186 C204 C204 C186	1.09941	Q9P2T1 Q9P2T1 Q9P2T1 H0YNJ6 A0A087W WM4 Q9P2T1 Q9P2T1 H0YNJ6 A0A087W WM4 Q9P2T1 Q9P2T1 H0YNJ6 A0A087W WM4	3
AGSDGESIGNC*PFSQR	C35 C35 C35	1.099075	Q9Y696 Q9Y696 Q9Y696	3
ECEHCDC*LQGFQLTHSLGGGTGSGMGTLISK	C129	1.097255	Q9BUF5	2

VFIMDSC*DELIPEYLNfir	C366 C366 C366 C366 C366 C366	1.096142813	P08238 P08238 P08238 P08238 P08238 P08238	3
YADLTEDQLPSC*ESLKDTIAR	C153 C153 C153 C153	1.095025	P18669 P18669 P18669 P18669	3
FSFC*CSPEPEAEAEAAAGPGPCER	C26 C26 C26 C26 C26 C26	1.093776	E3W990 Q13501 E3W990 E3W990 Q13501 Q13501	2
SMVSPVPSPTGTISV PNSC*PASPR	C254 C254	1.08995125	P85037 P85037	3
EDPTVSALLTSEKDWQGFLLELYLQNSPEAC*DYGL	C237 C237	1.088078125	P78417 P78417	3
AENGLLMTPC*YTANFVAPEVLKR	C579 C559 C564 C584 C575 C483 C579 C559 C564 C584 C575 C483 C579 C559 C564 C584 C575 C483	1.086238889	P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418 P51812 Q15418 E9PGT3 Q15418 Q15418 Q15418	3
NAIDDGC*VVPGAGAVEVAMAEALIK	C361 C406 C406 C406	1.084716	P40227 P40227 P40227 P40227	3
SASLDNGGC*ALTTFSVLEGEK	C92	1.07978	P35610	2
C*TPACISFGPK	C34 C34	1.07942	P34932 A0A087WY C1	3
C*SDSDGLAPPQHLIR	C50 C171 C143 C23 C182 C182 C143 C182 C182 C143 C143 C143 C182	1.079362857	P04637 A0A087WZ U8 P04637 A0A087 P04637 P04637 P04637 J3KP33 P04637 P04637 P04637 A0A0U1RQ C9 P04637	3
GC*QDFGWDPFCQPDGYEQTYAEMPK	C129 C146 C105 C129 C146 C129 C146	1.07859	Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32 Q9BY32	3
FSPLCQWLYLEAADIVESLGKPEC*EEFLPR	C433 C433	1.075485	A0AVT1 A0AVT1	2

			Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637	
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575	1.0731	Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637 Q04637 E9PGM1 E7EUA4 Q04637 Q04637 Q04637 Q04637	3
NDITAWQEC*VNNSMAQLEHQAVR	C106 C106	1.071785556	O75934 O75934	3
VLVTTNVC*AR	C392 C310 C393 C361 C302	1.0704175	Q9NUU7 I3L352 F6QDS0 I3L0H8 Q9NUU7	3
HEFSVDMTC*GGCAEAVSR	C12 C12 C12	1.070010714	O00244 O00244 O00244	3
AYHEQLSVAEITNAC*FEPANQMVK	C295 C295 C295 C295 C295 C295 C295 C295 C295 C295 C295 C295 C295 C295 C280 C295 C295	1.069334098	P68366 P68363 Q71U36 Q13748 P68363 P68363 Q71U36 Q71U36 P68366 P68366 Q13748 Q13748 P68363 Q71U36 P68366 P68366 Q6PEY2	3
GALMANFLTQGGVC*CNGTR	C288 C288 C288	1.068046	P49189 P49189 P49189	3

LKNC*GCLGASPNLEQLQEENLK	C32 C32 C32	1.053077143	P54136 P54136 P54136	3
ATGHSGGGC*ISQGR	C24 C24 C24 C23 C24 C24 C24 C24 C23	1.05277	I3L139 I3L407 Q9HA64 I3L3W5 Q9HA64 I3L139 I3L407 Q9HA64 I3L3W5	3
LVVPASQC*GSLIGK	C109 C109 C109 C109	1.051315	Q15366 Q15366 Q15366 Q15366	2
IEEDVVVTDSGIELLTC*VPR	C426 C467 C426 C467 C426 C467 C467 C467 C467 C426 C467 C426 C467	1.0511975	P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955 P12955	3
YDC*GEEILITVLSAMTEEAVALK	C159 C129 C159 C129 C159 C129 C159 C129 C159 C129 C159 C129 C159 C129	1.049562083	P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241 P63241	3
KC*STPEEIK	C6 C23 C6 C23	1.0467575	P60981 P60981 P60981 P60981	3
LLLC*GGAPLSATTQR	C450	1.045761667	O95573	2
IIPGFMC*QGGDFTR	C62 C62 C62	1.045653125	P62937 P62937 P62937	3
VIGIEC*SSISDYAVK	C91 C101 C109 C95 C73 C119	1.045401538	Q99873 Q99873 Q99873 Q99873 E9PKG1 H7C211	3
LNISFPATGC*QK	C12 C12 C12 C12 C12	1.045387	P62753 P62753 P62753 P62753 P62753	3
LTNTYCLVAIGGSENFYSVFEGELSDTIPVVHASIAGC*R	C56 C56 C56	1.04462	P56537 P56537 P56537	3
CCLTYC*FNKPEDK	C149 C149	1.044103333	P62979 P62979	2

ELDLSNNC*LG DAGILQLVESVR	C409 C409 C409	1.043923333	P13489 P13489 P13489	3
LC*DFGISGQLVDSIAK	C246 C257	1.043775	P45985 P45985	2
ADDTFEALC*IEPFSSPELDPVMKPDQSGSSANEQAV Q	C89 C111 C84 C89 C111 C84	1.0413975	Q15370 I3L0M9 B8ZZU8 Q15370 I3L0M9 B8ZZU8	2
C*LHNFLTDGVP AEGAFTEDFQGLR	C316 C268 C316 C268	1.038920909	G3V1A6 P57764 G3V1A6 P57764	3
NMMAAC*DPR	C303 C285 C303 C303 C303 C650 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C285 C303 C303 C303 C303 C303 C303 C303	1.038166111	Q9BUF5 Q5JP53 Q9BVA1 P68371 P04350 A0A0B4J26 9 Q3ZCM7 A6NNZ2 P07437 P68371 Q9BUF5 Q13509 Q9BVA1 P04350 Q3ZCM7 A6NNZ2 Q5JP53 P68371 Q9BUF5 Q9BVA1 Q13509 P04350 Q3ZCM7 A6NNZ2	3
C*GETAFIAPQCEMPIEWVCR	C81	1.0376125	P22234	3
AYSFAMGC*WPK	C285 C152 C170 C167 C285 C76	1.037456667	O43414 H0Y4B0 O43414 F6QUN3 O43414 O43414	2
VTFSC*AAGFGQR	C1245 C1113 C1252 C1230 C1227 C1210 C1118 C1245 C1113 C1252 C1230 C1227 C1210 C1118	1.037086	Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203 Q14203	3
NPVINIASMLGSTDIPDWCVVEAGFPFSSDC*LPDLSVW AEMLDK	C641 C641	1.036421818	P13798 P13798	3
C*PFTGNVSIR	C60 C60 C60	1.034892	P62280 P62280 P62280	2
LDNWLNELETYC*TR	C110 C223 C86 C139	1.032073333	Q9NP72 H0Y6T8 A0A087 Q9NP72	2
GHTTG VVVGVSGETSEALS RDPETLVGYSMVGC*QR	C135 C135	1.0315025	P49327 P49327	2

ALNVEPDGTGLTC*SLAPNIISQL	C204 C152 C204 C152	1.0302225	P30044 P30044 P30044 P30044	2
YNSALGHVNC*TIK	C282 C1101 C282 C301 C1101 C282	1.02792	Q9NQC3 Q9NQC3 Q9NQC3 Q9NQC3 Q9NQC3 Q9NQC3	3
EITSLDTENIDEILNNADVALVNFYADWC*R	C58 C58 C58 C58 C58 C58	1.027054516	Q9BS26 Q9BS26 Q9BS26 Q9BS26 Q9BS26 Q9BS26	3
LC*VQNSPQEAR	C141 C150 C150 C150 C150 C141 C150 C150 C150 C150 C141 C150 C150 C150 C150	1.026742	A0A0A0MT 56 E9PID8 P33240 P33240 E7EWR4 A0A0A0MT 56 E9PID8 P33240 P33240 E7EWR4 A0A0A0MT 56 E9PID8 P33240 P33240 E7EWR4	3
NMVHPNVICDGC*NGPVVGTR	C131 C154 C131	1.026505	Q13501 E3W990 Q13501	2
NHLLPDIVTC*VQSSR	C184 C184 C184	1.026012	Q9BSD7 Q9BSD7 Q9BSD7	3
VSDTVVEPYNATLSVHQLVENTDETYC*IDNEALYDIC*F R	C201 C211 C183 C193 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211 C201 C211	1.025785	Q9BUF5 Q5JP53 Q9BVA1 P68371 P04350 P07437 P68371 Q9BUF5 Q9BVA1 P04350	3
QAQC*TSYFIEPVQWMEALLGVMDGQLLCPK	C265	1.02574	Q9UNI6	3
AQEQQLLQKQLQQQQPPSQC*TAPASSHER	C385 C527 C296 C385 C527 C345	1.02409	Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 Q9Y2D5 C9JVY5	2
VMTIPYQPMPASSPVIC*AGGQDR	C194 C194 C194	1.023642381	Q15365 Q15365 Q15365	3
VAAASGHC*GAFSGSDSSR	C919 C947 C919 C947	1.0232175	Q9NZB2 Q9NZB2 Q9NZB2 Q9NZB2	3
AHEILPNLVCC*SAK	C149	1.023065	P50990	2
ADHQPLTEASYVNLPTIALC*NTDSPLR	C148 C153 C148 C148 C153 C148	1.022815556	C9J9K3 A0A0C4DG 17 P08865 C9J9K3 A0A0C4DG 17 P08865	3

YRDC*LTESNLK	C554 C554 C554	1.022293333	P21980 P21980 P21980	3
SSSSVTTSETQPC*TPSSSDYSDLQR	C103 C334	1.021973333	K7EM16 P50552	2
AGAAAGGPGVSGVCVC*K	C113 C113 C113 C113	1.021973333	Q16270 Q16270 Q16270 Q16270	2
SC*GHQTSASSLK	C377 C377 C377	1.019376	Q9HB90 Q9HB90 Q9HB90	3
SCYDLSC*HAR	C471 C471 C471	1.019296667	P41250 P41250 P41250	3
LECVENPC*R	C77	1.017875	Q969Q0	3
YFAGNLASGGAAGATSLC*FVYPLDFAR	C129 C129 C129 C129 C129 C129	1.01773	P05141 P12235 P05141 P12236 P12235 V9GYG0	3
VVMALGDYMGASCHAC*IGGTNVR	C134 C134 C134	1.017086154	P60842 P60842 P60842	3
LLQC*DPSSASQF	C185	1.01653	P37235	3
AWVWNTHADFADEC*PKPELLAIR	C209 C82 C132 C132 C132 C82 C209 C82 C132 C132 C132 C82	1.015308889	F6WQW2 P43487 P43487 C9JJ34 C9JGV6 F6WQW2 P43487 P43487 C9JJ34 C9JGV6	3
SIQFVDWC*PTGFK	C347 C347 C347 C347 C347 C347 C347 C347 C347 C347 C332 C347 C332 C347	1.0123135	P68366 P68366 P68363 P68363 P68363 P68366 P68366 P68363 P68363 P68366 P68366 P68366 P68366	3
ALRLDVGNFSWGSECC*TR	C72	1.007035	P62241	3
GYWASLDASTQTTHLTIPTNNLIGC*IIGR	C293	1.0065275	Q15365	3
IGLIQFC*LSAPK	C252 C222 C252 C222 C252	1.00578	P50991 P50991 P50991 P50991 P50991	3
QAVLGAGLPSTPC*TTINK	C119 C119	1.00433	P24752 P24752	3
C*IPYAVLLEALALR	C110 C110 C110 C110 C110 C110 C110 C110 C110	1.004043333	F5H248 F5H7C6 F5GYF7 Q9UBW8 F5H248 F5H7C6 F5GYF7 F5H4U8 Q9UBW8	2

FIC*TTSIQNR	C20	1.0020375	P53396	3
HEEFEEGC*K	C41 C245 C41 C41 C41 C41 C41	1.001618	Q9HC38 Q9HC38 I3L3Q4 Q9HC38 I3L1F4 Q9HC38	3
NIC*FTWVDVGGQDR	C62 C62 C62 C62 C62	1.001576818	P18085 P18085 P18085 P18085 P18085	3
ESESCDC*LQGFQLTHSLGGGTGSGMGTLLISK	C129	1.00147	Q9BVA1	2
SEGTYC*CGPVPVR	C370	1.000374286	P21980	3
VAC*ITEQVLTLVNKR	C477	0.999866667	P04843	3
IC*LAEFLTADTILNTLQNISEGLVVYPK	C340 C340	0.998575	P30566 P30566	3
YTIVVSATASDAAPLQYLAPYSGC*SMGEYFR	C294 C244 C272 C294 C244 C272 C294 C244 C272 C294 C244 C272	0.996966471	P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705 P25705	3
AAAPAPEEEMDEC*EQALAAEPK	C316 C266	0.995819556	P26641 P26641	3
ASIGAGFIYPLVGTMTMPGLPTRPC*FYDIDLDTETEQ VK	C961 C962 C896 C961 C962 C896 C961 C962 C896	0.99568	Q6UB35 B7ZM99 A0A087WV M4 Q6UB35 B7ZM99 A0A087WV M4 Q6UB35 B7ZM99 A0A087WV M4	3
LLQPDFQPVC*ASQLYPR	C265 C201 C258	0.99528	Q9UJW0 Q9UJW0 Q9UJW0	2
NMITGTSQADC*AVLIVAAGVGEFEAGISK	C111 C111 C111 C111 C111 C111 C111	0.993045	P68104 P68104 A0A087WV 01 Q05639 P68104 A0A087WV 01 Q05639	2
HPLTQELKEC*EGIVPVPLAEK	C105 C105	0.992525	P82932 P82932	3
AKVDEFPLC*GHMVSDEYEQLSSEALEAAR	C49 C49 C49 C49 C49 C49	0.99158378	P27635 P27635 P27635 P27635 P27635 P27635	3
GLC*AIAQAESLR	C97 C97 C97 C97 C97	0.990487273	P23396 P23396 P23396 P23396 P23396	3
SNLQEIFLPAFPC*HER	C337	0.988895	Q9NPG8	2
LYYFQYPC*YQEGLR	C130	0.9888475	Q9NRW3	3

TGC*TFPEKPDFH	C353 C353 C353 C318 C336	0.977994	P55263 P55263 P55263 P55263 P55263	3
EC*LPLIIFLR	C41 C41 C41 C41 C41	0.976082353	P62701 P62701 P62701 P62701 P62701	3
TIGGGDDSFTTFFC*ETGAGK	C54 C54 C39 C54	0.975523333	P68366 P68366 P68366 P68366	3
SC*GSSTPDEFPTDIPGTK	C105	0.9752	P41091	2
NTGIIC*TIGPASR	C49 C49 C49 C49 C49	0.973918333	P14618 P14618 P14618 P14618 P14618	3
NPLC*PLGQTVQSELR	C115	0.973645	Q9Y5R8	2
VIEINPYLLGTMSGC*AADCQYWER	C116 C120 C120 C116 C120 C120 C116 C120 C120 C116 C120 C120	0.973486667	P28062 P28062 P28062 P28062 P28062 P28062 P28062	3
KENQWC*EEK	C160 C160	0.972575	P63208 P63208	3
IISNASC*TTNCLAPLAK	C152	0.972422857	P04406	3
IAVYSC*PFDGMITETK	C244 C244 C244	0.971141	P50990 P50990 P50990	3
EAVFPFQPGSVAEVC*ITFDQANLTVK	C89 C89 C89 C89 C89 C89 C89 C89 C89	0.970834286	P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382 P09382	3
ALANVNIGSLIC*NVGAGGPAPAAGAAPAGGPAPSTAA APAEK	C61 C61	0.969678571	P05386 P05386	3
LLDRDAC*DTVR	C204 C247 C204 C247	0.968735	Q9NZL4 Q9NZL4 Q9NZL4 Q9NZL4	2
SLHDALC*VVK	C397 C397 C397	0.9677	P17987 E7ERF2 P17987	2
LGGSLIVAFEGC*PV	C146 C163 C146 C163 C146 C163 C146 C163 C146 C163	0.966328	P60981 P60981 P60981 P60981 P60981 P60981 P60981 P60981 P60981 P60981	3
ALNALC*DGLIDELNQALK	C62	0.965895	P30084	3
SYC*AEIAHNVSSK	C96 C96 C114 C96 C96 C114	0.965014286	D3YTB1 P62910 F8W727 D3YTB1	3

			P62910 F8W727	
VRNC*SSPEFSK	C53 C53 C58 C53 C58 C53 C58	0.964802	Q99829 A6PVH9 B0QZ18 Q99829 B0QZ18 Q99829 B0QZ18	3
PGHLQEGFGC*VVTNRFDQLFDDSDPFEVLK	C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11 C11	0.964396667	Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51 Q8NC51	3
VIFLQGGGC*GQFSAVPLNLIGLK	C80 C80	0.9641575	Q9Y617 Q9Y617	2
AYGSMC*AK	C83 C83	0.96404	P49207 P49207	3
YGIIC*MEDLIHEIYTVGKR	C186 C186	0.963197692	P18124 P18124	3
SGVIVLPC*GAGK	C342 C342	0.96215	P19447 P19447	2
GDLENAFLNLVQC*IQNKPLYFADR	C280 C262 C280 C262	0.960366667	P07355 P07355 P07355 P07355	3
LTALDYHNPAGFNC*KDETEFR	C19 C19 C19 C19	0.958685556	Q9Y224 Q9Y224 Q9Y224 Q9Y224	3
VIGSGC*NLDSAR	C163 C192 C164 C164 C163 C192 C164 C163 C192	0.958555	P00338 P00338 P07195 P07195 P00338 P00338 P07195 P00338 P00338	3
IQFNDLQSLLC*ATLQNVLR	C440 C585 C585	0.958198	Q14974 Q14974 Q14974	3
NC*LTNFHGMDLTR	C96 C96 C96	0.956851538	P61247 P61247 P61247	3
LTPGC*EAEAETEAI CFFVQQFTDMEHNR	C2359 C2359 C2359 C2359 C2359 C2359 C2359 C2359 C2359	0.9562604	P49327 P49327 P49327 P49327 P49327 P49327 P49327 P49327 P49327 P49327	3
GVL MYGPPGC*GK	C210 C179 C210 C179 C210 C179	0.955628	P43686 P43686 P43686 P43686	3

			M0R0F0 P46782	
SLC*NLEESITSAGRDDLESFQLEISGFLK	C63	0.937995	Q52LJ0	3
LFHEDGEC*WVYDEPLLKR	C707 C703 C720 C730 C707 C703 C610 C720 C542 C555	0.9376	Q96SU4 Q96SU4 Q96SU4 Q96SU4 Q96SU4 Q96SU4 Q96SU4 Q96SU4 Q96SU4 Q96SU4	2
LISP NLGVVFFNAC*EAASR	C342 C316 C342 C316 C342 C316	0.9359	Q66K74 Q66K74 Q66K74 Q66K74 Q66K74 Q66K74	3
GPAVGIDLGTTYSC*VGVFQHGK	C17 C17 C17 C17 C17	0.935205	P11142 P11142 E9PKE3 P11142 P11142	2
LTWHSC*PEDEAQ	C177 C177 C177	0.9317275	Q13185 Q13185 Q13185	3
TC*FETFPDKVAIQLNDTHPALSIPELMR	C326 C326 C326	0.930966667	P11216 P11216 P11216	3
LDINLLDNVNC*LYHGEGAQQR	C34 C34 C34	0.930847	O14980 O14980 O14980	3
RVFIMDNC*EELIPEYLNfir	C374 C496	0.93051	P07900 P07900	3
LPTPTYGDLNHLVSATMSGVTTC*LR	C239 C239 C239 C239 C239 C239	0.92753	Q3ZCM7 A6NNZ2 Q3ZCM7 A6NNZ2 Q3ZCM7 A6NNZ2	3
VAC*AEWQESR	C87 C87 C87 C87	0.9261175	O75663 O75663 O75663 O75663	3
VTQNLPMKEGC*TEVSLLR	C308 C308 C308 C308	0.9238	H3BQZ7 Q1KMD3 H3BQZ7 Q1KMD3	2
GLGTDEDSLIEIIC*SR	C151 C133 C133 C133 C16 C16 C16 C16 C68 C68 C151 C133 C133 C133 C151 C133 C151 C133	0.921478333	P07355 P07355 H0YMD0 H0YMD0 H0YL33 H0YN28 H0YL33 H0YN28 H0YNP5 H0YNP5 P07355 P07355 A6NMY6 A6NMY6 P07355 P07355 P07355 P07355	3
SGQGAFGNMC*R	C96 C96 C96 C96	0.92136125	P36578 P36578	3

			P36578 P36578	
FLSQIESDC*LALLQVR	C794 C794 C794	0.920716667	P52789 P52789 P52789	3
RLDEC*EEAFQGTK	C103 C92 C31 C36 C92 C92 C36 C92 C103 C92 C31 C36 C92	0.9207	P61289 P61289 B3KQ25 K7ESG5 P61289 P61289 K7ESG5 P61289 P61289 P61289 P61289 B3KQ25 K7ESG5 P61289	3
KAQC*PIVER	C87 C66 C66	0.920095	MOR0R2 MOR0F0 P46782	3
IMKDLQDC*R	C62 C62 C62	0.919176667	P60903 P60903 P60903	3
AFC*GFEDPR	C4494 C4384 C4361 C4343 C4325 C4357 C4357 C4335	0.91795	Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149 Q15149	2
TSSVSNPQDSVSGSPC*SR	C108 C106 C108 C108	0.91566	P49023 F5GZ78 P49023 P49023	3
SVHYC*PATK	C193 C158 C148 C193	0.915586667	P25205 J3KQ69 P25205 P25205	2
VC*NFLASQVPFPSR	C214 C214 C214	0.914813636	Q99714 Q99714 Q99714	3
KLDTNSDGQLDFSEFLNLIGGLAMAC*HDSFLK	C91 C91 C91	0.913965714	P31949 P31949 P31949	3
AFQYVETHGEVC*PANWTPDSPTIKPSPAASK	C229 C229	0.91325	P30048 P30048	3
MLNYSAPSAGGC*LLDRK	C12 C40 C34 C12	0.9132375	G3V2D5 G3V2P5 Q07352 G3V2D5	3
AAAENLPVPAELPIEDLC*SLTSQSLPIELTSVVPESTEDI LLK	C65	0.912825	Q96JB2	2
GFEVVMTEPIDEYC*VQQLK	C521 C521	0.9117	P08238 P08238	2
ATYDKLC*K	C59 C59	0.91096	P62851 P62851	2
AQNTWGC*GNSLR	C410 C423 C522 C148 C522 C441 C423 C410 C522 C522 C522 C522 C410	0.910043333	P02545 P02545 P02545 A0A0C4DG C5 P02545 Q5TCI8 P02545 P02545 P02545 P02545 P02545	3

			P02545 P02545	
STFFNVLTSQASAENFPFC*TIDPNESR	C55 C75 C55 C75 C55 C75 C55 C75	0.909122727	Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32 Q9NTK5 J3KQ32	3
YLAEVAC*GDDR	C134 C134	0.907562222	P27348 P27348	3
AGKPVIC*ATQMLESNIK	C326 C326 C326 C161 C326 C326	0.905075714	P14618 P14618 P14618 H3BR70 P14618 P14618	3
LEGDLTGPSVDVEVPDVELEC*PDAK	C2162 C2162 C2162	0.904754	Q09666 Q09666 Q09666	3
RPLNPLASGQGTSEENTFYSWLEGLC*VEK	C241 C241	0.904654286	Q96HE7 Q96HE7	3
NVMMIQSC*K	C353 C353	0.90077	O00622 O00622	2
DLNYC*FSGMSDHR	C267 C267 C267 C267 C267 C267	0.898608571	G8JLB6 P31943 P55795 G8JLB6 P31943 P55795	3
VSMILQSPAFC*EELESMIQEKFCK	C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68 C68	0.8982975	P35611 E7EV99 P35611 E7ENY0 P35611 P35611 P35611 P35611 P35611 E7EV99 A0A0A0MS R2 P35611 E7ENY0 P35611 P35611 P35611	3
HSMNPFC*EIAVEEAVR	C133 C42 C42	0.8974275	P38117 MOQY67 P38117	2
LEGDLTGPSVGVVEVPDVELEC*PDAK	C1900 C1900 C1900	0.894544	Q09666 Q09666 Q09666	3
AVASQLDC*NFLK	C193 C207 C193 C207 C193 C207	0.894353333	P62333 A0A087 P62333 A0A087 P62333 A0A087	3
LLNLVYDVTPELVDLVITELGMIPC*SSVPVLR	C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 C509 C506 C529 C508 C530	0.89357875	Q9UI10 A0A087WT A5 Q9UI10 Q9UI10 E7ERK9 Q9UI10 A0A087WT A5 Q9UI10 Q9UI10	3

INPYMSSPC*HIEMILTEK	C144 C144 C144 C106 C144 C134 C106 C144 C144	0.8786725	A0A087 P18621 P18621 P18621 A0A0A6YY L6 J3QLC8 A0A0A0MR F8 J3QQT2	3
INPIC*NDHYR	C70 C70 C70	0.8781475	Q96KB5 Q96KB5 Q96KB5	3
GNFTLPEVAEC*FDEITYVELQKEEAQK	C648 C629 C648 C629 C648 C629 C648 C629	0.876893333	Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839 Q00839	3
TATAVAHC*K	C25 C25 C25 C25	0.87641	P62249 M0R210 P62249 P62249	3
VVNEINIEDLC*LTK	C92 C92 C92	0.876142	Q8N5K1 Q8N5K1 Q8N5K1	3
GLNPLNAYSDLAEFLETEC*YQTPFNK	C343	0.87406	O14879	2
GAVEC*CPNCR	C149 C149	0.872235	P31689 P31689	2
VLDALFPCVQGGTTAIPGAFGC*GK	C254 C221 C254 C221 C254 C221	0.872172	P38606 P38606 P38606 P38606 P38606 P38606	3
YFTQGNC*VNLTEALSLYEEQLGR	C318 C318 C265 C318	0.872098	P52788 P52788 P52788 P52788	3
VQYPQSQAC*K	C633 C633	0.87165	Q14204 Q14204	3
IIPBLEEGLQLPSPTATSQPLESDAVEC*LNYQHYK	C132 C132	0.871633333	P61978 P61978	3
IKADPDGPEAQAEAC*SGER	C18 C18 C18 C18 C18 C18 C18 C18 C18 C18 C18 C18	0.87156	D6RCB9 J3QSY4 D6RC52 D6RCB9 J3QSY4 D6RC52 D6RCB9 J3QSY4 D6RC52	3
AWSTGDC*DNGGDEWEQEIR	C54	0.870336667	Q9BRF8	3
HDDSSDNFC*EADDIQSPEAEYVDLLNPER	C166 C166 C166 C166	0.87017375	Q96HE7 Q96HE7 Q96HE7 Q96HE7	3
FALNHPELVEGLVLINVDPC*AK	C166 C154 C166 C166 C154 C166 C71 C166 C154 C166 C77	0.869886923	Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2 Q9UGV2 Q5TH30 F8WBF9 Q9UGV2 Q9UGV2 Q5TH30 Q9UGV2	3

			P49591 Q5T5C7	
VC*NYGLTFTQK	C65 C66 C65 C66	0.85121	Q9Y277 Q9Y277 Q9Y277 Q9Y277	2
ANSSVSVNC*K	C596 C596	0.851035	O60502 O60502	2
DVIELTDDSFDKNVLDSEVWVMEFYAPWC*GHCK	C190 C238 C242 C195 C187 C190 C238 C242 C195 C187	0.849622222	Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084 Q15084	3
IPDWC*SLNNPPEMMFDVGK	C388 C388 C388	0.849452857	Q9NZ32 Q9NZ32 Q9NZ32	3
LVSSPCC*IVTSTYGWTANMER	C590 C590 C590	0.848766667	P08238 P08238 P08238	3
GLESTTLADKDGEIYC*K	C167 C167	0.84651	P21291 P21291	2
NSNVDSSYLESLYQSC*PR	C645 C767 C645 C767 C645 C767	0.8463675	Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4 Q7Z2W4 C9J6P4	3
KLLDLVQQSC*NYK	C30 C34 C30 C34	0.8455925	P55769 B1AHD1 P55769 B1AHD1	3
PVMSGNTAYPVIS*PPLTPDWGVQDVWSSLR	C350 C258 C350	0.84551	P22234 D6RF62 P22234	3
GC*LELIKETGVPIAGR	C152 C152 C152	0.845026	P11586 P11586 P11586	3
LKNCGC*LGASPNLEQLQEENLK	C34	0.841671111	P54136	3
DC*GGAAQLAGPAEADPLGR	C8 C8 C8 C8	0.841266667	A0A096LP0 2 Q9Y508 Q9Y508 A0A096LN V3	2
ANNNAAVAP TTC*PLQPVTDPFAFSR	C46 C46	0.840783333	J3KNL6 F1T0I1	2
SC*SGVEFSTSGSNTDTGK	C47 C47 C47	0.83964	P45880 A0A0AOMR 02 P45880	2
VDLNSNGFIC*DYELHELK	C33 C33 C33	0.839415	P13797 P13797 P13797	3
LIC*CDILDVLDKHLIPAANTGESK	C97 C75 C97 C97	0.83759	P62258 P62258 P62258 P62258	3
AC*ADATLSQITNNIDPVGR	C25 C25	0.83743	P62873 P62873	3
PWVLTCC*LLNNLDEDGDLVAFSSDEELTMAMSYVKDD IFR	C86 C86	0.831366667	E3W990 E3W990	2
EADQKEQFSQGPSNC*LETSLAEIFPLGK	C102 C161	0.830735	A0A0U1RQ D1 Q9NQ88	3

VPAFEGDDGFC*VFESNAIAYYSNEELR	C118 C68 C118 C68 C118 C68 C118 C68 C118 C68	0.83014125	P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641 P26641	3
VWNLANC*K	C182 C182 C182	0.82954	P63244 P63244 P63244	3
APPGGC*EERELALALQEALEPAVR	C117 C117	0.827015	Q5RKV6 Q5RKV6	2
VC*FVTSMMTGR	C119 C119 C195 C153 C119 C119 C195 C153	0.825693333	A0A087 Q86TG7 A0A087 A0A087WU L4 A0A087 Q86TG7 A0A087 A0A087WU L4	2
VILITPTPLC*ETAWEEQCIQGCK	C117 C137	0.821807143	H7C5G1 Q2TAA2	3
LC*DFGVSQLIDSMANSFVGTR	C207 C211 C207 C114 C211 C211 C207	0.821596364	Q02750 P36507 Q02750 G5E9C7 P36507 P36507 Q02750	3
FLENTPSSLNIEDIEDLFLAQYYC*SK	C283	0.8212	Q9NUY8	3
NEMNC*KEDQFQLSLLAAMGNTQR	C684 C684	0.82088	P53618 P53618	3
PMC*IPPSYADLGK	C13 C13 C13 C13	0.819515	P45880 P45880 A0A0A0MR 02 P45880	3
FDDLQFFENC*GGGSFGSVYR	C22 C22	0.8193725	Q9NYL2 Q9NYL2	2
ALVDGPC*TQVR	C42 C42	0.8192	E7EPB3 P50914	2
QNSDFLC*QMDLLQEFYETTLEALKDAK	C130 C130 C130 C130	0.818897143	P61201 P61201 P61201 P61201	3
VGVGTC*GIADKPMYQDTSK	C214 C214 C214 C214	0.818532857	O75940 O75940 O75940 O75940	3
EGIC*ALGGTSELSSEGTHQHSYSEEEKYAFVNWINK	C104 C104 C104	0.818114286	P13797 P13797 P13797	3
NYVTVMQNNPLTSGLEPSPQC*DYIRPSLTGK	C202 C266	0.815265	P16333 P16333	2
VVHC*QPLDLK	C161 C138 C161 C138	0.814385	A0A0C4DF S6 Q9C004 A0A0C4DF S6 Q9C004	2
GAVEKGEELSC*EER	C38 C38 C38 C38 C38	0.813592	P31947 P31947 P31947 P31947 P31947	3
LC*SGPGIVGNVLDPSAR	C245 C245 C245 C245 C245 C245	0.81218	Q9Y5P6 Q9Y5P6 Q9Y5P6	3

			Q9Y5P6 Q9Y5P6 Q9Y5P6	
NTFIGTPYWMAPEVIAC*DENPDATYDYR	C202 C202 C202 C202 C202 C202 C164 C202 C202 C202 C202 C202 C202 C202 C202 C202 C202 C202 C65 C202 C202 C164 C202 C202 C202 C202 C202 C202 C202 C202 C202 C202	0.80761	Q8N4C8 O95819 Q8N4C8 E7ESS2 A0A0D9SE Y1 Q8N4C8 H7C360 E7EN19 O95819 G5E948 E7ENQ1 Q8N4C8 O95819 O95819 O95819 Q8N4C8 Q8N4C8 Q8N4C8 O95819 Q8N4C8 E7ESS2 I3L2I2 A0A0D9SE Y1 Q8N4C8 H7C360 E7EN19 O95819 G5E948 E7ENQ1 Q8N4C8 O95819 O95819 O95819 Q8N4C8	2
VC*ATLPSTVAVTSCWSPK	C186 C186 C186 C186 C186 C186 C186 C186 C186 C186	0.804735	P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658 P35658	2
LHIVQVVC*K	C191 C191	0.804393333	O00299 O00299	2
INQMVC*NSDR	C853 C853 C853	0.8041	P06400 P06400 P06400	3
DNTIEHLLPLFLAQLKDEC*PEVR	C377 C377	0.80149	P30153 P30153	3
KIWC*FGPDGTGPNILTDITK	C651 C651	0.80111	P13639 P13639	2
TQNLPC*QLISR	C331 C367 C374 C331 C367 C374	0.79963	P37268 E9PNM1 P37268 P37268 E9PNM1 P37268	2
VHIPNDDAQFDASHC*DSDKGEFGGFGSVTGK	C141 C97 C17	0.79693	Q16576 Q16576 Q5JP01	2
MLPTYVC*ATPDGTEKGDFLALDLGGTNFR	C517 C517 C517	0.79520875	P52789 P52789 P52789	3
GPFVEAEVPDVLLEC*PDAK	C1833 C1833	0.792423333	Q09666 Q09666	2

VVMALGDYMGASC*HACIGGTNVR	C131 C131 C131	0.7921575	P60842 P60842 P60842	3
VC*TLAIIDPGDSDIIR	C92 C92 C92 C92 C92 C92	0.789822222	P62888 E5RI99 P62888 E5RI99 P62888 E5RI99	3
EEC*PVFTPPGGETLDQVK	C55 C114 C55 C114 C55 C114	0.788913333	A0A0U1RQ D1 Q9NQ88 A0A0U1RQ D1 Q9NQ88 A0A0U1RQ D1 Q9NQ88	3
HGFC*GIPITDTGR	C140 C140 C140	0.78843	P12268 P12268 P12268	3
ATVAPEDVSEVIFGHVLAAGC*QNPVR	C65 C65	0.78693	Q9BWD1 Q9BWD1	3
NSCNNFIYGGC*R	C166 C116 C109	0.785403333	O43291 K7EM91 O43291	2
TTC*MSSQGSDEQIKR	C22 C22 C7 C22 C22 C22 C22 C7 C22 C22 C22 C22 C7 C22 C22	0.78516	Q9P0V9 Q9P0V9 B5ME97 E7EW69 Q9P0V9 Q9P0V9 B5ME97 E7EW69 Q9P0V9 Q9P0V9 B5ME97 E7EW69	3
APELLGC*K	C177 C177 C177 C177	0.783046667	G3V5T9 P24941 G3V5T9 P24941	2
VQSLPSVPLSC*AAYR	C412 C412	0.782515	Q96AD5 Q96AD5	2
ENVNVEEMFNC*ITELVLR	C163 C147 C163 C147	0.77787	Q15286 F5H157 Q15286 F5H157	3
SQSPAASDC*SSSSSASLPSSGR	C121 C179 C121 C179	0.777738	C9JFK9 O95817 C9JFK9 O95817	3
VIEINPYLLGTMAGGAADC*SFWER	C111 C111 C111	0.777556	P28074 P28074 P28074	3
MKVELC*SFSGYK	C6 C6 C6 C6	0.776655	P83731 C9JNW5 P83731	2
AFDTAGNGYC*R	C223 C223	0.775936667	P49327 P49327	2
WTQTLSELDLAVPFC*VNFR	C188 C188 C188	0.774731667	Q9Y266 Q9Y266 Q9Y266	3
GSC*STEVEKETQEK	C69 C69	0.774125	O75348 O75348	2
GLYGIKDDVFLSVPC*ILGQNGISDLVK	C293 C322 C293 C322 C293 C322 C293 C322 C293 C322 C293 C322	0.773314737	P00338 P00338 P00338 P00338	3

			P00338 P00338 P00338 P00338 P00338 P00338 P00338	
VHNQDPKDWPAQYC*EALADEENR	C283 C283	0.77134	Q96MG7 Q96MG7	2
NC*GC*LGASPNLEQLQEENLK	C32 C34 C32 C34	0.770635	P54136 P54136	3
NYLEPGKEC*VQPATK	C997 C997 C997	0.7654	P16615 P16615 P16615	3
AHIAQLC*EK	C617 C621 C617 C617 C617 C617 C617 C617 C617	0.765185	Q00610 A0A087WV Q6 Q00610 P53675 P53675 Q00610 Q00610 P53675 P53675	2
TGAAC*LPFYSAAGSIPSGVSGR	C29	0.764445	Q12849	2
LDVGNFSWGSEC*CTR	C71 C71	0.76209	P62241 P62241	3
YC*VRPNSGIIDPGSTVTVSVMLQPFYDPNEK	C60 C60	0.760644286	Q9P0L0 Q9P0L0	3
LNPVTC*AGK	C878 C878	0.759646667	Q8TD19 Q8TD19	2
LVIVGDGAC*GK	C16 C16 C16 C16 C16 C16 C16 C16 C16	0.757446	P08134 Q5JR08 E9PQH6 P61586 Q5JR05 P08134 Q5JR08 E9PQH6 P61586	2
ALANSLAC*QGK	C393 C339 C393 C339 C393 C339	0.756016667	P04075 P04075 P04075 P04075 P04075 P04075	3
ASVGFGGSC*FQK	C276 C276 C276 C209	0.755565	O60701 O60701 O60701 O60701	3
EGTDSSQGIPQLVSNISAC*QVIAEAVR	C29 C29 C29 C29	0.75354381	Q99832 Q99832 Q99832 Q99832	3
C*ALGWDHQEK	C246 C246 C246	0.748266667	Q14247 Q14247 Q14247	2
GSLLLDGAGAGGAGSRPC*SNR	C158 C158	0.748115	Q96IF1 Q96IF1	2
AANSC*TSYSGTTLNLKEFEGLLAQMR	C140 C140 C140 C140 C140 C140 C140 C140 C140 C140	0.744913333	Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 Q9UPQ0 D6RD46	2

			O00743 O00743 O00743 O00743 O00743 O00743	
GAFC*DLVWSDPEDVDTWAISPR	C229 C192 C229 C192 C229 C192	0.743933333		3
FNAHGDANTIVC*NSK	C61	0.74387	P09382	2
C*TGGEVGATSALAPK	C17	0.74232	P30050	2
SYC*NDQSTGDIK	C106 C106	0.74112	P00492 P00492	3
RGPC*IIYNEDNGIIK	C208 C208	0.73983375	P36578 P36578	3
ECPSDEC*GAGVFMASHFDR	C126 C126	0.73904	P62979 P62979	2
NSPLPNC*TYATR	C275 C340 C350 C275 C340 C350	0.73759	Q5JTD0 Q5JTD0 Q5JTD0 Q5JTD0 Q5JTD0 Q5JTD0	2
YAC*GLWGLSPASR	C457 C26 C175	0.735263333	Q15637 H7C0N4 H7C561	3
FSFQC*PGR	C285 C346 C377	0.73399	Q13418 Q13418 A0A0AOMT H3	2
LPLMEC*VQMTQDVQK	C360 C360 C360	0.728043333	Q01813 Q01813 Q01813	3
C*PEALFQPSFLGMESCGIHETTFNSIMK	C257 C257 C257	0.726846667	P60709 P63261 P63261	2
NAFAC*FDEEATGTIQEDYLR	C109 C109 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109 C114 C108 C109	0.726211333	O14950 O14950 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950 J3QRS3 P19105 O14950	3
AAHTEDINAC*TLTTSPR	C516 C657 C637 C516 C657 C637	0.725273333	H7C155 P04049 P04049 H7C155 P04049 P04049	2
EEFASTC*PDDEEIELAYEQVAK	C223 C223 C223 C223	0.72230125	O00299 O00299 O00299 O00299	3
SKDGV*VR	C185 C261 C265	0.720515	P55786 E9PLK3 P55786	2
QEPLGSDSEGVNC*LAYDEAIMAQQDR	C23 C23 C23 C23 C23 C23 C23 C23 C23	0.715678	Q96FW1 J3KR44 F5H6Q1 Q96FW1 J3KR44 F5H6Q1 Q96FW1	3

			J3KR44 F5H6Q1	
VTAVIPC*FPYAR	C24 C91 C91 C91 C91 C91 C91 C91 C91	0.7139825	P60891 P60891 P11908 P11908 P60891 P11908 P11908 A0A0B4J20 7 P21108	3
TPTKPSSLNNQLVSVDC*K	C991 C991	0.713886667	Q9NZV1 Q9NZV1	2
NESC*SENYTTDFIYQLYSEEGK	C641 C641 C641 C641 C641 C641 C641 C641 C641 C641	0.7108395	Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813 Q01813	3
GVLFGVPGAFTPGC*SK	C100 C48	0.70634	P30044 P30044	2
LVTSPC*CIVTSTYGWTANMER	C597 C719	0.700216667	P07900 P07900	3
ITHSPLTIC*FPEYTGANKYDEAASYIQSK	C271 C287 C271 C250 C235	0.698613333	P04899 P04899 P04899 P04899 P04899	3
ADEASELAC*PTPK	C2202 C2202	0.69706	P49327 P49327	2
IINDNATYC*R	C211 C211 C211	0.6915175	O00567 O00567 O00567	3
SLDDSQC*GITYK	C282 C282 C282	0.688303333	Q9NVG8 Q9NVG8 Q9NVG8	3
AC*NFFNNVGGNLK	C260 C260 C144 C78 C244 C260 C260 C144 C78 C244	0.677985	Q13772 Q13772 B4DF87 B4DZ85 Q13772 Q13772 Q13772 B4DF87 B4DZ85 Q13772	2
AC*GLNFADLMAR	C86 C86	0.67327	Q99536 Q99536	2
NC*LNPQFSK	C54 C54	0.664295	O75131 O75131	2
ITSC*IFQLLQEAGIK	C63 C63	0.661902	P22234 P22234	3
MNIQILEDTHKVPQPPASCSCYFNQAFHLPC*R	C394 C394	0.659815	Q9BR11 Q9BR11	2
ETGANLAIC*QWGFDDANHLQLQNNLPAVR	C302 C264 C281	0.6565	P48643 B7ZAR1 E9PCA1	2
YAYLNVVGMVGSIDNDFC*GTDMTIGTDSALHR	C179 C179 C179 C179 C179 C179 C179	0.655035263	Q01813 Q01813 Q01813 Q01813 Q01813 Q01813	3

TNTAVRPYC*FIEFDNFIQR	C111 C111 C111 C111 C111 C111 C111	0.641503333	C9JDJ8 C9JNZ0 Q96IW7 C9JRY4 C9JNZ0 Q96IW7 C9JRY4	2
VETCGC*AEGYAR	C221 C173 C194 C221 C173 C194	0.63537	O14972 A8MTY9 O14972 O14972 A8MTY9 O14972	2
LAPILC*DGTATFVDLVPGR	C568 C568	0.635186667	O43264 O43264	3
LVTSPPC*IVTSTYGWTANMER	C598 C720 C598 C720 C598 C720 C598 C720	0.633324	P07900 P07900 P07900 P07900 P07900 P07900 P07900	3
FNPEAGANC*LVK	C449 C449	0.633005	O14777 O14777	2
LVSSPC*CIVTSTYGWTANMER	C589	0.632646667	P08238	3
DLSYC*LSGMYDHR	C267 C267	0.62279	P52597 P52597	2
SSPGLSDTIFC*R	C27 C27	0.617806667	Q9H8M7 Q9H8M7	2
LGMLSPEGTC*K	C212 C212	0.605254	P49327 P49327	3
TREEEC*HFYAGGQVYPGEASR	C51 C51 C51	0.603001667	Q13162 Q13162 Q13162	3
AVTVAFC*TLPTR	C163	0.58657	Q5TA50	2
YLEC*SALTQR	C157 C150 C157 C157 C157 C150 C113	0.577453333	P15153 B1AH80 P63000 P63000 P15153 B1AH80 B1AH77	3
YNFFTGC*PK	C364	0.57155	Q99832	2
IYGGSVTGATC*K	C218 C255 C218 C255	0.561915	P60174 P60174 P60174 P60174	2
HLSSC*AAPAPLTAER	C141 C141 C141 C141	0.55334	Q6IBS0 D6RG15 Q6IBS0 D6RG15	3
ASVGAGFLYPLVGTMTMPGLPTRPC*FYDIDLDPETE QVNGLF	C918 C918	0.550395	P11586 P11586	2
AC*YLSINPQKDETELEK	C222 C222	0.54233	P61163 P61163	2
LLAPDC*EIIQEVGK	C215	0.52464	Q9NQT5	2
YKWC*EYGLTFTEK	C76	0.523961667	P45880	3
VFFIQAC*QGDNYQK	C345 C419 C377 C360 C276 C345 C419 C377 C360	0.521896	Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790 Q14790	3

YAIC*SALAASALPALVMSK	C125 C125 C125	0.51861	P36578 P36578 P36578	3
IC*PVETLVEEAIQCAEK	C213	0.515025	P30084	2
VGVDYEGGGC*R	C680 C727 C680 C727	0.501025	Q02809 Q02809 Q02809 Q02809	2
KAEGDLGPSWVC*GFSNLESQVLEK	C184 C184	0.4883	Q15814 Q15814	2
VAFQMTMPC*PNFYILDEPTNHLDMETIEALGR	C622 C628	0.486985	Q9NUQ8 Q9NUQ8	2
TVGVQGDGCR	C523 C523	0.478565	P49915 P49915	2
VLC*ELADLQDKEVGDGTTSVVIAAELLK	C76 C76 C76	0.471976667	P17987 E7ERF2 P17987	2
VSLDPELEEALTSASDETELC*DLAAILGMHNLITNTK	C132 C132	0.463603333	Q9NYL9 Q9NYL9	3
GC*TATLGNFAK	C229	0.458925	P15880	3
LDVGNFSWGSEC*C*TR	C71 C71 C71 C71	0.44204	P62241 P62241	2
IC*PVEFNPNFVAR	C33 C33 C33 C33 C33 C33 C33 C33	0.416940769	Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30 Q9UI30	3
TAGQTGMC*GGVR	C113	0.41112	Q5VTL8	2
TNC*NVAVINVGAPAAGMNAAVR	C411	0.40267	Q01813	2
YAEYFLRPMLQYVC*DNSPEVR	C917 C915 C933 C933	0.395225	H0Y8C6 O00410 O00410 O00410	2
TWYVQATC*ATQGTGLYEGLDWLSNELSKR	C159 C159 C159 C159	0.392401667	P18085 P18085 P18085 P18085	3
VWNNSSTVNAVVPVAPPVC*DVAR	C558 C558	0.389986667	Q96EN8 Q96EN8	2
ATDYPC*LLILD PQNEFETLR	C145 C145 C145	0.383838	Q9NVG8 Q9NVG8 Q9NVG8	3
VVEPYNATLSIHQLVENTDETYC*IDNEALYDIC*FR	C548 C558 C201 C211 C201 C211	0.37551	A0A0B4J26 9 Q13509 Q13509	2
LVIYGGMSGC*R	C227 C227 C227 C227 C227 C227 C227 C227	0.37249	P51610 P51610 A6NEM2 P51610 P51610 P51610 A6NEM2 P51610	2
HLNEIDL FHC*IDPNDSK	C58 C58 C62 C58 C58 C62 C58 C58 C62	0.369923333	Q15185 Q15185 A0A087WY T3 Q15185 Q15185 A0A087WY T3 Q15185 Q15185 A0A087WY T3	3
TYSHLNIAGLVGSIDNDFC*GTDMTIGTDSA	C170 C170	0.368753333	P17858 P17858	3
FVVDVDKNIDINDVTPNC*R	C112 C104 C112 C104	0.349165	P62195 P62195	2

			P62195 P62195	
SLGVELAVGTHPPQCHGGGPGLC*HGEPAL	C983 C983 C983 C983	0.3079025	E9PGB2 E9PGB2 E9PGB2 E9PGB2	3
TMVNLALENAC*DEATYQLGLDMEELIEEDAGLNG GLGR	C109 C109 C109	0.29686	P11217 P11217 P11217	3
VAGINAC*GR	C1803 C1872 C1917 C1916 C1803 C1872 C1917 C1916	0.286385	P51610 P51610 A6NEM2 P51610 P51610 P51610 A6NEM2 P51610	2
GC*GTVLLSGPR	C134 C134 C136 C134 C134 C105 C136 C113	0.268455	G3V203 Q07020 J3QQ67 Q07020 G3V203 Q07020 J3QQ67 H0YHA7	2
C*GVPDVAQFVLTEGNPR	C92 C92	0.237615	P03956 P03956	2
FSPNSSNPIIVSC*GWDK	C168 C168 C168	0.20028	P63244 P63244 P63244	3
NTKGGFQC*LCADPYELGDDGR	C823 C766 C298 C766 C766 C823 C650 C298 C823 C650 C823 C823 C766 C298 C766 C766 C823 C650 C298 C823 C650 C823	0.187885	P07202 P07202 A0A0G2 P07202 A0A0G2JR 31 A0A0G2JP 53 P07202 H7C1F5 A0A0G2JR Z1 A0A0G2JR 90 P07202 P07202 P07202 A0A0G2 P07202 A0A0G2JR 31 A0A0G2JP 53 P07202 H7C1F5 A0A0G2JR Z1 A0A0G2JR 90 P07202	2
NPVSQC*MR	C50 C50 C50 C50 C50 C50 C50 C50 C50 C50	0.161795	A0A087 A0A087WY Y0 G3V162 Q13148 B1AKP7 A0A087 A0A087WY Y0 G3V162 Q13148 B1AKP7	2
LSSCDSFTSTINELNHC*	C105 REVERSE C105	0.150785	P07814 P07814	2

QVC*AHIVQAIRMEATR	C3932 C3929 C3932 C3929	0.1428	O75592 O75592 O75592 O75592	2
SPVLVFC*NSRHVICLDC*FHLYCVTR	C253 C263 C253 C263 C225 C235 C253 C263 C62 C72 C253 C263 C104 C114 C174 C184 C225 C235 C174 C184 C225 C235	0.13898	O60260 O60260 O60260 B1AKC3 O60260 O60260 O60260 O60260 O60260 O60260 O60260	2
NIFLVAATLRPETMFGQTNC*WVR	C305 C305 C251	0.131706667	Q9P2J5 Q9P2J5 Q9P2J5	3
LC*EPEVLNSLEETYSPPFR	C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261	0.11073	G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7 G3V5I6 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 Q6PJT7 G3V256 H0YJA2 Q6PJT7 Q6PJT7	2
EC*ENCDCLOQGFQLTHSLGGGTGSGMGTLLISK	C471	0.10162	A0A0B4J26 9	2
FEIINAIYEPTEEE*EWKPDEEDEISVST	C132 C132 C132	0.101056667	F8W020 F8W020 F8W020	2
SLHHATLHFRSNEEEEGVC*C*GR	C1218 C1218 C487 C487 C369 C369 C946 C946 C1218 C1218 C1218 C1218 C1218 C1218 C487 C487 C369 C369 C946 C946 C1218 C1218 C1218 C1218	0.100095	Q86WI3 H0YFT1 H0YGT6 H0YGM1 Q86WI3 Q86WI3 Q86WI3 H0YFT1 H0YGT6 H0YGM1 Q86WI3 Q86WI3	2
QC*GGLQGFLIFRSFGGGTSGGFTSLLMER	C136 C96 C136 C96 C136 C96	0.08242	A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2 A6NHL2	3
PEALFQPC*FLGMESCGIHETTFSIMK	C965 C928 C965 C965 C928	0.07415	Q6S8J3 P0CG39 P0CG38 Q6S8J3 P0CG39	2

IDC*FSEVPTSVFGEK	C384 C384	0.052245	O00567 O00567	2
MPYEISAGTQCC*EER	C33 C33	0.041965	H0YJY7 H0YJY7	2
VSAAALAVILIATALC*APASAPYSSDTTPC*CFAYIARP LPR	C18 C33 C18 C33	0.04094	P13501 D0EI67	2
ASFENNC*EIGCFAK	C11	0.034725	P56537	2
PNAGAGGGRSGGGSSVSGGGGGGAGAGGC*GGP GGALTR	C63 C63 C95 C60 C63 C63	0.02705	Q8N594 W4VSR2 MOR189 MOR0F2 Q8N594 MOR044	2
C*LDLVDKYLRCR	C596 C597 C596 C597	0.016256667	MOR3C9 Q9UM47 MOR3C9 Q9UM47	3
ASFENNCEIGC*FAK	C15 C15	0.01532	P56537 P56537	2
MAC*GLVASNLNLKPGECLR	C3 C3 C3	0.0052	P09382 P09382 P09382	3

YP 2-23

Peptide	Modified Residue	Avg. Ratio	Uniprot ID	seen in
GLPYGGSC*GGGIDGGSSVTTSGEFNSNDITELEDSFSK	C231 C436 C426	501.90213	Q5JU85	2
PVC*GLHSVISPSDGR	C181 C147 C172	337.955276 7	Q9UG56	2
LC*YVALDFEQEMAMAASSSSLEK	C917	204.637616	P0CG38	3
FSFC*CSPEPEAEAEAAAGPGPCER	C26	203.41163	Q13501	3
DLETLKSLC*R	C308 C340 C151 C71	149.91353	M0QY25	3
AC*QSIYPLHDFVFR	C201 C164 C181 C164 ;C201 C164 C181 C164 ;X ;	146.184584 3	P61247	3
WEALHAAECPC*GPSLIR	C178 ;C178 ;C178 ;	128.798721 3	P53701	3
SASLDNGGC*ALTTFSVLEGEK	C34 C27 C92 ;C34 C27 C92 ;C34 C27 C92 ;	126.797427 5	P35610	3
VMLPYSSGILTAVLPC*LAYDDRK	C307 ;X ;C307 ;	125.54338	Q08AM6	2
SLRLSC*TASGFTFGDYAMSWVR	C30	100.116335	AOA087WU 91	2
ELATVGGFGILEEMCVNYVHYYPQTQLELC*K	C503 ;X ;C503 ;	90.41993	P09172	2
MTLYHC*IVLLENAALTGFWYSSR	C389 ; C389 ;X ;M384	74.470825	Q5GH72	2
DCIGGC*SDLVSLQQSGELLTR	C83 C83 C83 ;C83 ;C83 ;	73.9244242 9	P35754	3
NTMVNLGLQNAC*DEAIYQLGLDLEEEIEEDAGLNG GLGR	C109 ;X ;C109 ;	63.8095590 5	P11216	3
IC*YIFHETFGR	C367 C380 C380 C380 C367 C367 C367 C367 C164 ;C367 C380 C380 C380 C367 C367 C367 C367 ;X ;	52.935045	O00429	2
RAC*SETLAESR	C431 C4 C11 C29 C367 C315 C315 ;X ;C4 C11 ;	50.71771	A8K0R7	2
WTQTLSELDAVPC*VNFR	C188 ;X ;C188 ;	48.7700669 6	Q9Y266	3
EEFASTC*PDDEEIELAYEQVAK	C223 C223 ;C223 C223 ;C223 ;	47.8516886 4	O00299	3
C*C*FCGEDHPQQGSTLYCVPTSTNQAQAPEER	C199 C199 ;C199 C199 ;C199 C199 ;	35.3152266 7	P51843	3

AFYMEEGVPC*ER	C388 C354 ;X ;C388 C354 ;	34.894895	Q9NR12	2
EC*GPGTQVQEVVC*INSDGEEVDRQLCR	C603 C592 C592 C603 ;C592 C603 ;	34.48884	Q9UPZ6	3
MDVFQEGLAMVVQDPLLCDLPQVTL EEVNSQIALEYGQ AMTVRVC*K	C46 ;M10 X ;M10 C46 ;	29.21632		2
DNTIEHLLPLFLAQLKDEC*PEVR	C377 C377 ;C377 C377 ;C377 ;	24.4355187 9	P30153	3
LGEWVGLC*K	C92 ;X ;C92 ;	24.017342	P25398	3
GTLTEAFPVLGGKAI EFC*IAR	C733 C733 ;C733 C733 ;C733 C733 ;	23.4114466 7	P29144	3
TQNL PNC*QLISR	C331 C367 C374 ;X ;C367 C374 ;	21.7231166 7	P37268	3
MTEEEV EMLVAGHEDSNGC*INYEELVR	C139 C138 C139 C138 C139 C138 C139 C138 ;X ;X ;	20.35344 20.1775933 3	G8JLA2	3
DPYILIAAGSIC*FANMGIAMLEPALPIWMMETMCSR	C302		Q05940	2
VC*EEIIIPSK	C35 C35 C35 ;C35 C35 C35 ;X ;	20.145221	AOA075B71 6	2
EMFPYEASTPTGISASC*R	C363 C323 C254 ;C363 C323 C254 ;C363 C323 C254 ;	17.4267812 5	P42167	3
C*RPDQLTGLSLLPLSEK	C3336 ;C3222 ;X ;	16.9604625	Q15149	2
HSC*AVVNIPAPCVNKMISHIQDVESK	C86	15.8499075	F8W7A7	3
NLVFSSSATVYGNPQYLPLDEAHTGGC*TPNYGK	C153 ;X ;C153 ;	14.53035	Q14376	2
LC*YVALDFEQEMATAASSSSLEK	C217 C217 C217 C217 C217 C217 C217 C217 C917 C917 C917 C917 ;C217 C217 C917 C917 ;C217 C217 C217 C217 C217 C217 C217 C217 C917 C917 C917 C917 ;	13.2132931 3	P60709	3
KNPFGLVPVLENSQGQLIYESAITC*EYLDEA	C90 ;C90 ;C62 C90 C62 C90 ;	13.2021975	P78417	3
AVLHPTGPLYC*PEEK	C175 C175 C175 C154 C175 C175 C175 C175 ;X ;C175 C175 C175 C154 C175 C175 C175 C175 ;	12.5691	Q8IXI2	2
GDGQFFAVSVVC*PETGAR	X ;X ;C213 ;	12.08417		2
ECISVHVGQAGVQMGNAC*WELYCLEHGIQPDGQMPSD K	C20 C43 ;X ;X ;	11.9276136 4	P68366	3
C*ELLYEGPPDDEAAMGIK	C369 ;X ;X ;	11.6983	P13639	3
VQYLEDTPFAC*ANFPEPR	C31 ;X ;C31 ;	11.322835	Q9Y613	3
AANC*IMEVSC*GQAESSEKPAEDMTSK	C15 ; C9 C15 ;X ;C9 7	10.6911285 7	Q99873	2
FVQALLAPC*SLR	C634 C659 C546 ;C659 C634 ;C659 C634 ;	9.80598666 7	Q9BU23	3
YLVLD C*VPEER	C1062 C1041 ;C1062 C1041 ;X ;	9.649185	O14776	2
NAGNC*LSPAVIVGLLK	C335 C369 C335 C369 ;C335 C369 C335 C369 ;C335 C369 ;	9.14737684 2	Q5SZU1	3
LAGLTC*SGAEGLARPK	C207 ;C207 ;X ;	8.78858	Q8WV74	2
ASSDLSIASSEEDKLSQNAC*ILES VSEK	C358 C358 C358 C358 C358 C358 ;X ;C358 C358 ;	8.76669	Q9H2G2	2
VMALQEAC*EAYLVGLFEDTNLCAI HAK	X ;X ;C97 C97 C97 C97 ;	7.79728285 7		2

C*PENAFFLDHVR	C783 C778 C767 C802 ;C783 C778 C767 C802 ;C783 C778 C767 C802 ;	7.517421	O00159	3
ISGADINSIC*QESGMLAVR	C379 C348 ;X ;C379 C348 ;	7.27119125	P43686	3
EGGVQLLLTIVDTPGFGDAVDNSNC*WQPVIDYIDSK	C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 ;C126 C126 C106 C73 C73 C90 C125 C126 C126 C106 C73 C73 C90 C125 ;C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 C126 C126 C106 C125 ;	7.13424636 4	Q16181	3
SEETNTEIVEC*ILK	C902 C903 ;C902 C903 ;X ;	7.037038	A0A087WV 66	2
LLQFYAETC*PAPER	C142 C137 C126 C161 ;C142 C137 C126 C161 ;C142 C137 C126 C161 ;	7.031854	O00159	3
DIAEPHIPC*LMPEYFEPQIK	C139 ;C139 ;X ;	6.97868	Q96EY7	3
SCSSSC*AVHDLIFWR	X ;C46 ;C46 ;	6.963935		2
DTSSSEVNLSHIVPC*EPVPEEKPK	C405 ;C405 ;X ;	6.83533	Q8N0X7	2
AGEVPPAMYQFSQYVC*QQTGLQIPQLPAPPK	C82 C60 C82 C60 ;C82 C60 C82 C60 ;X ;	6.66902583 3	A0A140TA8 6	3
IC*DGVMQFAGIR	C457 C457 ;C457 ;X ;	6.38561428 6	Q9Y512	3
AAGDDEAMFIDENFC*TALEYGLPPTAGWGMGIDR	C562 C534 C562 C534 C562 C534 ;C562 C534 ;C562 C534 C562 C534 ;	6.18514428 6	Q15046	3
LIYYTGC*PMR	C298 C306 ;X ;X ;	6.11788333 3	Q96NE9	2
C*C*SPEPEAEAAAAGPGPCER	C26 ;X ;X ;	6.068842	Q13501	3
NMQITILTC*R	X ;C169 C148 ;C169 C148 ;	6.046795		2
MDSLLIAGQINTYC*QNIK	C327 C324 C341 ;X ;X ;	6.04208666 7	O15372	2
SPWLAGNELTVADVVLWSVLQQIGGC*SVTVPAN	C222 ;X ;C213 ;	5.93240363 6	F8W950	3
SLDQTSPC*PLVLVR	C691 ;C691 ;C691 ;	5.90474666 7	P01619	3
APLRPEVPEIQEC*PIAQESLESQEQR	C44 ;C44 ;X ;	5.76774166 7	Q9H840	2
GIPMVLIGC*K	C31 C31 C131 ;C131 ;X ;	5.74952	V9GY67	2
SGETEDTFIADLVVGLC*TGQIK	C296 C389 C296 C389 C296 C389 ;C296 C389 C296 C389 C296 C389 ;C389 C389 ;	5.7474725	P06733	3
LLGITPVC*R	X ;C576 ;C576 ;	5.39468333 3		2
FC*FTPHTTEEGCLSER	C1118 ;C1118 ;C1118 ;	5.342424	P49327	3
LC*DFGISGQLVDSIAK	C246 C257 ;C246 C257 ;C246 C257 ;	5.196243	P45985	3
GEVPC*TVTSASPLEEATLSELK	C141 C37 ;C141 C37 ;X ;	5.11534	P48047	3

THEAEIVEGENHTYC*IR	C2199 C2191 C2172 ;X ;C2199 C2191 C2172 ;	5.0920775	P21333	3
AAPAQSPAAPDPEASPLAEPPEQSLAPWSPQTPAPPC*SR	C100 ;X ;X ;	5.061106667	P83111	3
IGLAVC*YDMR	C203 C188 C220 C203 C167 C203 C188 C220 C203 C167 ;X ;C188 C220 C203 C167 ;	5.027773333	Q86X76	3
GGTLFGGEVC*K	C684 ;C684 ;X ;	4.987025	P42166	2
LLNYPEEVDC*VGLIK	C28 C28 C28 C28 C28 ;X ;X ;	4.945245	D6RC25	2
ERPTPSLNNNC*TTSEDSLVLVNR	C744 ;C744 ;X ;	4.92631	P07814	2
TTC*SSGSALGPGAGAAQPSASPLEGLLDLSYPR	C12 C12 C12 ;C12 C12 C12 ;C12 C12 C12 ;	4.87153	F8WDZ3	3
YLEC*SALQQDGVKEVFAEAVR	C157 ;X ;X ;	4.804725	P84095	2
KLVIVGDGAC*GK	C16 C16 C16 C16 ;C16 C16 C16 C16 C16 C16 ;C16 C16 C16 C16 ;	4.781980833	P08134	3
FSNQETC*VEIGESVR	C41 ;C41 ;X ;	4.7582	P60891	3
NTLANSC*GTGIR	C416 ;C416 C393 ;X ;	4.72293	Q96RE7	2
KNEPPLTC*PYSLK	C295 ;C295 ;X ;	4.695763333	Q9UGP8	2
ICDEC*NYGSYQGR	C49 ;C49 ;X ;	4.695522	Q7RTV0	2
FMC*AQLPNQVLESISIIDTPGILSGAK	X ;C138 C138 ;C138 ;	4.648016667		2
SVAWAPSGNLLATC*SR	C123 ;C123 ;X ;	4.62426	O76071	2
LAAPDPC*DPQR	C28 C28 ;C28 C28 ;X ;	4.623043333	O60831	2
AVQC*LNTSSK	C2565 C2554 C2554 C2554 ;C2565 C2554 C2554 C2554 ;X ;	4.588003333	Q5T4S7	2
LVEALC*AEHQINLIK	C69 ;X ;C69 ;	4.586446667	P25398	2
C*SVLAAANSVFR	C439 C482 ;X ;X ;	4.579828	B1AHB1	3
AATEQEPLGTEQTLDAEEEQEESSEAAAC*GSK	C37 ;C37 ;C37 ;	4.56646	Q9ULW3	3
VAHALAEGLGVIAC*IGEK	C127 C164 ;C127 C164 ;C127 C164 ;	4.553283333	P60174	3
GPC*IIYNEDNGIIK	C208 ;C208 ;C208 ;	4.552731875	P36578	3
VPC*ILPIIENGKK	C378 ;X ;X ;	4.5062225	Q9UJM3	2
DDSC*SGDSSAQLSSGEHLLGPNRIMAYSR	X ;C1413 ;C1413 ;	4.48878		2
MVSDINNAWGC*LEQVEK	C370 C370 C370 C370 ;X ;C370 C370 C370 C370 ;	4.487246667	P12814	2
DSSQSPSQVDQFC*K	C162 ;C162 ;X ;	4.445516667	Q13637	2
ITALMVSC*NR	X ;C1155 C1146 C1141 C998 C1145 ;X ;	4.43986		2
IPC*DVTEAEIISLGLPFGK	C40 C74 C71 C37 C40 C68 ;X ;X ;	4.435748333	O95758	3
C*GFSELYSWQR	C91 ;C91 ;C91 ;	4.4299	Q9NSE4	3
NALANPLYC*PDYR	C192 ;C192 ;X ;	4.4102	P22695	2
VTPTEEHVEGPLPSPVTNGTSPAQLNGGSAC*SSR	C165 C143 C160 C158 C271 C271 C165 C143 C160 C158 C271 C271 ;C165 C143 C160 C158 C271 C271 ;X ;	4.402578571	H3BQS0	2
PMC*IPPSYADLGK	C13 ;M12 C13 M12 C13 ;	4.396217647	AOA0A0MR02	3

LSLQNC*CLTGAGCGVLSSTLR	C95 ;C95 ;X ;	4.37134	P13489	3
NFNYSFSSLIAC*VANSDFSESETR	C16 C16 ;X ;C16 C16 ;	4.36427	P53805	3
TQAIVC*QLDLTHLK	X ;C201 ;C201 ;	4.33376		2
MININILSVC*K	C166 ;C166 ;X ;	4.331746	Q53GQ0	3
TWYVQATC*ATQGTGLYDGLDWLSHELK	C159 C159 C159 ;C159 C159 ;C159 C159 ;	4.32477	P84085	3
IGAAIQEELGYNC*QTGGVIAEILR	C112 C112 ;C112 C112 ;C112 C112 ;	4.32190153 8	O00567	3
NMESPLC*NEALVDQLWKLMSGTSHDWR	C945 ;X ;C945 C69 ;	4.31964	Q6P1X5	2
LSLDGQNIYNAC*CTLR	C250 ;X ;C250 ;	4.31187333 3	P26599	3
ATLQAALC*LENFSSQVVER	C21 C40 C21 C21 C40 C21 C21 C40 C21 ;X ;C21 C40 C21 C21 C40 C21 ;	4.30908444 4	P59998	2
NEEDIGAGDQGLMFGYATDETEEC*MPLTIVLAHK	C149 ;C149 ;X ;	4.30141375	P31153	3
C*QLEINFNTLQTK	X ;C332 C332 C332 C332 C351 ;C351 C332 C332 C332 C332 C339 C339 ;	4.2949525		2
SVPTTQC*LDNSK	C226 C226 ;X ;X ;	4.26111333 3	A0A087WV 66	2
YLC*DFTYYTSLYQSHGR	C149 ;C72 C149 ;C149 ;	4.248275	Q9NXJ5	3
EAVQC*VQELASPSLLFIFVR	C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 ;C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 ;C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 C1070 C1101 C1265 C1272 C1225 C1179 C1102 C1226 C1069 C1266 C1178 ;	4.2408975	Q04637	3
TYEQIKVDENENC*SSLGSPSEPPQTLDLVR	C151 C151 C151 C151 ;C151 C151 ;C151 C151 ;	4.23444333 3	A0A0C4DG Q6	3
DKENTGVLHAFPPC*EFSQQFLDSPAK	X ;C926 C926 C882 C926 C882 ;X ;	4.22854666 7		2
LTSSVSC*ALDEAAAALTR	C210 C95 C97 C210 C181 ;X ;X ;	4.224315	O75179	2
AVAHHTDC*TFIR	C209 C201 ;C209 C201 ;X ;	4.21027333 3	P62195	2
GQFHEFQESTIGAAFLTQTVC*LDDTTVK	C63 ;C63 ;C63 C63 ;	4.2086375	P20339	3
C*DISLQFFLFPFSLGK	X ;C157 ;C157 ;	4.20461666 7		2
YSNSALGHVNC*TIK	C282 C254 C282 C254 C1101 C1101 ;C895 C869 C125 C301 C108 C282 C254 C1101 ;X ;	4.19384555 6	Q9NQC3	3
VDPPFRPC*LQSEEDVVSQFDTR	C348 ;X ;C348 ;	4.18727333 3	Q9UBS0	2
VAC*ITEQVLTLVNK	C477 C477 C477 ;C477 C477 ;C477 ;	4.183126	P04843	3
FEIINAIYEPTEEEC*EWKPDEEDEISEELK	C126 C132 C91 C69 C132 C132 C126 C132 C91 C69 C132 C132 C126 C132 C91 C69 C132 C132	4.16619857 1	H0YIV4	3

	;C126 C132 C91 C69 C132 C132 C126 C132 C91 C69 C132 C132 ;C126 C132 C91 C69 C132 C132 ;			
EPAPAEALPQQYEPAPAALC*GPPPR	C363 ;X ;X ;	4.14297	Q8IU81	2
QVQSLTC*EVDALK	C328 ;C328 ;X ;	4.13876314 3	P08670	3
TTEETASISGSPAESSC*QVEHSSALAVEELGFER	C131 C131 ;C131 ;C131 ;	4.11849666 7	Q9H8M7	3
AQIHELLC*IVEALKK	C595 ;C595 ;C595 ;	4.1105	Q9Y5K6	3
LAMDFGGAGAAQQGLTDSC*QSGGVPTAVQNLAPR	C494 C510 ;X ;C494 C510 ;	4.10452666 7	Q13310	3
DLQPFPTC*QALVYR	C292 C404 ;C404 ;C292 C404 ;	4.10208555 6	Q14137	3
EC*ISVHVGQAGVQMGNACWELYCLEHGIQPDGQMPD K	C4 C27 ;X ;X ;	4.099	P68366	3
TELQGLIGQLDEVSLEKNPC*IR	C368 C327 ;C368 C327 ;C368 C327 ;	4.0969825	Q9UL15	3
AVEEGIVLGGGC*ALLR	C442 ;X ;X ;	4.09061421 1	P10809	3
EGTQASEGYFSQSQEEFAQSEELC*AK	C659 C615 C613 C659 C615 C613 C659 C615 C613 ;C659 C615 C613 C659 C615 C613 C659 C615 C613 ;C659 C615 C613 C659 C615 C613 ;	4.07187636 4	Q16643	3
LQILNSIFPGIGC*PVPR	C188 ;C188 ;X ;	4.06818333 3	Q9NX47	2
KC*SLPAEEDSVLEK	C652 C635 ;X ;X ;	4.05604333 3	E7EVA0	2
C*LAPMMSEVIR	X ;C550 ;C550 ;	4.04279666 7		2
YVENPSQVLNC*ER	C1344 C1285 ;C1344 C1285 ;X ;	4.01248	O75694	2
LLC*SQLQVADFLQNILAQEDTAK	C54 C54 ;X ;X ;	4.01172333 3	O95229	2
EYGSC*SHHYQQLLSLEQGAQEESR	C1098 ;C984 ;X ;	4.001465	Q15149	3
TTGLVGLAVC*NTPHER	C17 C17 C17 C13 C27 ;C17 C17 C17 C13 C27 ;X ;	3.99769	Q16718	2
LLQISPSSGTTVTSVVGFS*DGMRPEAIR	C855 C801 C916 C878 C879 C798 C917 C963 C883 C801 C964 C814 ;X ;C855 C801 C916 C878 C879 C798 C917 C963 C883 C801 C964 C814 ;	3.992765	O95819	2
VAASC*GAIQYIPTELDQVRK	C134 ;X ;C134 ;	3.99206266 7	Q7L2H7	3
MLVEPAC*GAALAIYSGLLR	C276 C172 ;X ;C276 C172 ;	3.94511	Q96GA7	2
GFCHLCDGQEAC*CVGLEAGINPTDHLITAYR	C100 C138 ;X ;X ;	3.9362	P08559	2
ILALC*MGNHELYMR	C284 ;C284 ;C284 ;	3.927905	P26038	3
VVLLGEGC*VGK	C29 ;C29 ;X ;	3.92691	Q9UL25	2
VASMLISSTC*DMVSAAYASTK	C39 C39 C39 ;X ;X ;	3.91392666 7	O60664	2
NQC*LFTNTQCK	C68 C68 C68 C68 C93 C68 ;X ;X ;	3.90627	Q9UL40	2
GPFVEAEVDPVDLEC*PDAK	C1833 C1833 ;C1833 ;C1833 ;	3.904821	Q09666	3
AVFPEGPC*EEPLQLR	C900 C900 ;C660 C900 C594 C660 C655 C655 C900 ;X ;	3.8999375	Q96P48	3

TGLC*YLPEELALQK	C35 C46 C46 ;X ;C35 C46 C46 ;	3.88284	Q13045	3
TGTQEVGGQDPGEAVQPC*R	C443 C443 C391 ;X ;X ;	3.87178	Q9NZT2	2
LC*YVALDSEQEMAMAASSSSVEKSYELPDGQVITIGNER	C217	3.87049	Q9BYX7	2
VQENSAYIC*SR	C585 ;X ;X ;	3.864195	Q9Y3T9	2
VC*IESEHSMDTLLATLKK	C41 ;X ;C41 C41 ;	3.86408333 3	O00244	3
KPVPPSPEDLSVIC*FTSGTTGDPK	C315 C259 C259 ;C315 C259 C259 ;C315 C259 C259 ;	3.86090333 3	Q9ULC5	3
GEETPVIVGSALC*ALEGR	C222 ;C222 ;C222 ;	3.86047875	P49411	3
PSYSSFTQGDSWGEVEDEEEGC*DQVAR	C48 ;X ;C48 ;	3.847494	Q8N6S5	3
EVFGSGTAC*QVCPVHR	C250 C342 C334 C302 C250 C342 C250 C342 C334 C302 C250 C342 ;C342 C334 C302 C342 ;C250 C342 C334 C302 C250 C342 ;	3.82269333 3	M0QZP4	3
C*ISIENTTVILEDCDGSKELQQFNWTWLR	X ;C822 ;C822 ;	3.821375		2
C*QWLYLEAADIVESLGKPECEEFLPR	C414 C414 ;X ;C414 C414 ;	3.813656	A0AVT1	2
ACVPGC*PAAEPSPASFLR	X ;C1374 C1375 C1400 ;X ;	3.81094		2
AVASQLDC*NFLK	C193 C207 ;C193 C207 ;C193 C207 ;	3.79869666 7	P62333	3
KPEDNHTQC*QLVPVVEIGISER	X ;C163 C163 ;C163 C163 ;	3.796425		2
EVPGSEARPEQEPVAEPVPC*TIFSQR	C160 ;C160 ;X ;	3.792835	Q8WVT3	2
VDC*TALRPVLILGPLLDVVK	X ;X ;C697 C1626 C1736 C1396 C491 ;	3.78848		2
MPC*QSLQPEPINTPTHTK	C1006 C1007 ;C1006 C1007 ;C1006 C1007 C647 ;	3.783972	A0A087WV 66	3
KDVLIEFYAPWC*GHCK	C406 C555 ;X ;X ;	3.78214289 5	P30101	3
IVLAGC*VPQAQPR	C138 C68 ;C138 C68 ;C138 C68 ;	3.77246	Q5VV42	3
LEGLTGPSVDVEVPDVELEC*PDAK	C2162 C2162 C2162 ;C2162 C2162 ;C2162 ;	3.772225	Q09666	3
VEDMAELTC*LNEASVLHNLK	C91 ;X ;X ;	3.76931166 7	P35579	3
FEIINAIYEPTEEEC*EWKPDEEDEISELK	C91 ;C91 C91 C91 ;C91 C91 C91 ;	3.75679	B7Z9C2	3
SC*SSSCAVHDLIFWR	C42 ;C42 ;C42 ;	3.75237125	O95197	3
C*IPALDSLTPANEDQK	C447 ;C447 C447 ;C447 ;	3.75029153 8	P10809	3
ELSIHFVPGSC*R	C17 C17 C17 ;C17 C17 C17 C17 ;C17 C17 C17 ;	3.74635	E5RJR3	3
VC*NFLASQVPFPSR	C214 C205 C214 C205 ;C214 C205 ;C214 ;	3.73619307 7	Q99714	3
NYLPAINGIVFLVDC*ADHSR	C102 C102 ;C102 C102 C59 ;X ;	3.73267	Q5SQT8	3
AGAIAPC*EVTVPAQNTGLGPEK	C119 ;C119 C119 C119 C119 ;C119 C119 ;	3.72372785 7	P05388	3
C*ATSGDGLYEGLDWLSNQLR	C159 ;X ;X ;	3.71799736 8	P84077	3
VLSSC*PQAGEATLLAPSTEAGGLTCASAPQGTLR	C88 C86 ;C88 C86 ;X ;	3.7037	O15446	2

C*SWLVPSPK	C265 C210 ;C265 C210 ;X ;	3.70366333 3	Q3SXM5	2
LLAIC*QPLTYSTR	C136 C136 C136 C136 ;C136 C136 C136 C136 ;C136 C136 ;	3.701926	P47893	3
C*SDNTEVEVSNLENKQPVESTSAK	C71 C71 ;C71 C71 ;X ;	3.698925	Q9NQW6	2
SAFLC*GVMK	C96 C96 C99 C96 C96 C99 C99 C96 ;X ;X ;	3.687785	O60506	2
PLGIC*LIIDCIGNETENAHSWIFTLNSMATCMIGTAEFLPR	C254	3.6868	O15519	3
HLSSC*AAPAPLTAER	C141 ;C141 ;X ;	3.66933857 1	Q6IBS0	3
SGEEALIIPDAVAVDC*KDPDDVVPVQQR	C38 ;C38 C38 ;X ;	3.66384333 3	Q9Y287	3
C*SILAAANPAYGR	C306 C482 ;C306 C482 ;X ;	3.659285	P33993	2
LPPGEYILVPSTFEPNKDGDFC*IR	X ;C498 ;C498 ;	3.656315		2
NAEFLTC*NIPTSNASNNMVTEK	C435 C97 C392 ;C435 C97 C392 ;C435 C97 C392 ;	3.641354	P55265	3
LGEPEDC*AGIVSFLCSEDASYITGETVVVGGGTPSRL	C214 C248 C196 C214 C248 C196 ;C162 C214 C246 C128 C248 C196 C162 C185 C45 C169 ;C162 C214 C246 C128 C248 C196 C162 C185 C45 C169 ;	3.6338425	Q9BTZ2	3
EGPLPPPSMPAVAGAAGGLALLLVAGAGGAMC*WRR	C250 ; X ;M225 C250 ;M225	3.633465		2
GAALITAVAC*R	C909 ;X ;C909 C881 ;	3.630995	P52789	2
SIKDTIC*NQDER	C509 C462 C456 ;C509 C462 C351 C456 C509 C462 C351 C456 ;X ;	3.62592	Q9ULV4	2
SVPAWSCQMIC*GSGLK	C92 ;X ;C92 ;	3.61876	Q9BWD1	3
C*ACASHVAK	C96 C98 C96 ;C96 C98 C96 ;X ;	3.61445	Q16643	2
AVDQVC*TFLFK	C15 ;X ;X ;	3.612515	O15541	2
NVFVEFYAPWC*GHCK	C397 ;C397 ;C397 ;	3.61204	P07237	3
NYLEPGKEC*VQPATK	C997 ;C997 ;X ;	3.60941333 3	P16615	2
IDPTVTMMQVEEKPDVTYSVGGC*K	C180 M26 C180 ;M163 C43 ;M163 C43 ;	3.60818785 7	P35998	3
KC*AADLGLNK	C84 ;C84 ;X ;	3.60412	P49773	2
DLLGLC*EQKR	C528 ;C528 ;X ;	3.60233	O14980	2
FMTILC*TR	C552 ;C552 C520 ;C552 C520 ;	3.60089666 7	P08133	3
C*EFEEVQGFLLDQVAHK	C64 C167 ;X ;X ;	3.598975	E9PI14	2
AIQESLLTSTEGLC*PSALSETSR	C540 ;C540 ;X ;	3.58662333 3	Q8IZ07	2
VNQAIWLLC*TGAR	C176 C155 C155 C176 C155 C155 ;C176 C155 C155 C176 C155 C155 ;C176 ;	3.58611692 3	M0R0R2	3
AC*QEIQEALLESSLR	C247 ;C247 ;X ;	3.573465	P24385	2
QVVIDGETC*LLDILDTAGQEEYSAMR	C51 C51 C51 C51 C51 C51 C51 C51 C51 C51 ;C51 C51 C51 C51 C51 ;X ;	3.57131333 3	P01112	2

TYAIC*GAIR	C56 C56 C56 C56 C56 C56 ;C56 C56 C56 ;C56 C56 C56 C56 C56 C56 ;	3.563732	Q9BYK1	3
DSC*LPSQGLSFSYGDILHVINASDDEWWQAR	C537 C519 C36 C182 C537 C519 C36 C182 ;X ;C537 C519 C36 C182 ;	3.56152916 7	Q5JUW8	3
MTLHPSPITC*EFLFSTALISPKMCLSHLENMPLSHSR	X ;C10	3.560755		2
LLAENEDVVVVDKPSIPVHPC*GR	X ;C185 C246 ;C185 C246 ;	3.552235		2
ATPPQIVNGDQYC*GDYELFVEAVEQNTLQEFK	C71 C204 C71 C204 ;C71 C204 C71 C204 ;X ;	3.548112	Q9H299	2
GLELIASENFC*SR	C59 C80 ;C59 C80 C80 ;X ;	3.54057666 7	P34897	2
VVPC*LVTPVTGR	C991 C991 ;X ;C991 C991 ;	3.53022666 7	O75369	2
YRPENTPEPVSTSVSHYGAEPPTVSPC*PSSSAK	C42 C47 ;C42 C47 ;C42 C47 ;	3.5201625	P07947	3
LAAC*VNLIPQITSIYEWK	C73 C115 C73 C96 C96 ;C73 C115 C73 C96 C96 ;C73 C115 C73 C96 C96 ;	3.516865	C9IZG4	3
TVPFLPLLGGC*IDDTILSR	C180 C190 ;C180 C190 C180 C190 ;C180 C190 ;	3.51363125	Q7Z7H8	3
ATC*ATQGTGLYEGLDWLSNELSK	C132 C159 ;X ;X ;	3.51359725 5	C9JAK5	3
LQFHVDVAGDIFHQQC*K	C385 C415 C431 ;C385 C415 C431 ;C385 C415 C431 ;	3.50319	P11413	3
C*RDDSFGETSHNYHK	X ;C230 C230 C4 C230 C230 ;C230 C230 C230 ;	3.50087		2
YIELFLNSC*PK	C476 C476 ;C476 C413 C314 C420 C449 C476 C413 C314 C420 C449 ;C476 C476 ;	3.49865571 4	Q12849	3
ELQEGTYVMVAGPSFETVAEC*R	C206 ;X ;X ;	3.49091666 7	P00491	2
WNTDNTLGTIEAIEDQIC*QGLK	C103 C103 ;C103 C103 ;X ;	3.48121	AOA0A0MR 02	3
VLILDEATSALDVQC*EQALQDWNSR	C641 C641 C641 C641 C641 C641 C641 C641 C641 ;C641 C641 C641 C641 ;C641 C641 C641 C641 C641 C641 C641 C641 ;	3.469355	X5CMH5	3
GLSNLGNTC*FFNAVMQNLSQTPVLR	X ;C204 C190 C205 ;C204 C190 C205 ;	3.467195		2
C*PASEPGLDATTASESR	C1029 C1029 ;C1029 C1029 ;X ;	3.45848333 3	Q27J81	2
AC*SVGAVPGITK	C278 C278 ;C278 ;C278 ;	3.455355	Q9NVN8	3
DHQPC*IIFMDEIDAIGGR	C228 C242 ;C228 C242 ;C228 C242 ;	3.45294289 5	P62333	3
TVFAEHISDEC*KR	C114 ;X ;X ;	3.44994	P39023	2
VLC*ELADLQDK	C76 C76 ;C76 ;X ;	3.4475556	E7ERF2	3
TPGAATASASGAEDGAC*GCLPNPGTFEECHR	C74 C74 ;C74 C74 ;C74 ;	3.44448166 7	O96008	3
GDPQVYEELFSYSC*PK	C417 C460 C369 ;C417 C319 C460 ;C417 C319 C460 ;	3.44281166 7	Q9Y262	3

VCLLGC*GISTGYGAAVNTAK	C174 ;X ;X ;	3.44277166 7	P11766	3
YFNPTGAHASGC*IGEDPQGIPNNLMPYV/SQVAIGR	C196 ;C196 ;X ;	3.43808142 9	Q14376	3
VPFLVLEC*PNLK	C14 C14 C14 C14 C14 C14 ;C14 C14 C14 ;C14 C14 C14 ;	3.43418142 9	Q9NRP0	3
VTPLPSLASPAVPAPGYC*SR	C153 C109 C140 C194 C109 ;C153 C109 C140 C194 C109 ;X ;	3.423	H7C3V8	2
SENC*GVPEDLLNGLK	X ;C8 ;C8 ;	3.421575		2
LATTAC*TLGDGEAVGADSGTSSAVSLK	C63 C63 ;C38 C63 C84 C63 C63 C63 C63 C63 C63 C63 C13 C63 C63 C63 C63 C63 ;X ;	3.4159	E9PHI4	2
VC*ENIPIVLCGNK	C129 C130 C112 C108 ;C129 C130 C112 ;X ;	3.41312411 8	B5MDF5	3
GFTDADNTWEPEENLDC*PELIEAFLNSQK	C61 C69 ;C69 C69 ;X ;	3.40288666 7	S4R2Y4	2
AFDTAGNGYC*R	C223 ;C223 C223 ;X ;	3.399464	P49327	2
LEGDLTGPSVGVVDPDVELEC*PDAK	C1900 C1900 C1900 C1900 C1900 ;C1900 C1900 ;C1900 ;	3.38261625	Q09666	3
WC*EYGLTFTEK	C76 C76 C76 C76 C76 C76 ;C76 C76 C76 C76 ;C76 C76 ;	3.37691590 9	A0A0A0MR 02	3
IFLIDC*PGVVYPSEDSETDIVLK	C362 C214 ;C362 C214 ;C362 C214 ;	3.36893666 7	Q13823	3
NQLC*DLETK	C62 C62 ;C62 C62 C62 C117 ;X ;	3.36769	P26358	2
C*LLSDELSNIAMQVR	C71 ;C71 C71 ;C71 C71 ;	3.362205	Q86YH6	3
TAGQPEGGPGADFGQSC*FPAAEAGR	C302 C258 C254 ;C302 C258 C254 ;C302 C258 C254 ;	3.35981	Q14694	3
SSSSVTTSETQPC*TPSSSDYDLQR	C334 ;C334 ;X ;	3.352005	P50552	3
RVDDFEAGAAAGAAPGEEDLC*AAFNVIC*DNVVK	C105 ; C105 C98 C98 C105 ;C98	3.34634555 6	Q13158	3
LFVSDGVPGC*LPVLAAGR	C12 ;C12 ;C12 ;	3.344525	P56192	3
LIGPNC*PGVINPGECK	C172 ;C172 ;C172 ;	3.33687857 1	P53597	3
ITEYLC*EPLRK	X ;C123 C123 C123 C123 C123 C123 C123 C123 ;C123 C123 C123 C123 C123 C123 ;	3.33401		2
LHC*SMLAEDAIAK	C138 C113 ;X ;C138 C113 ;	3.331355	Q9H1K1	2
TGTSQADC*AVLIVAAGVGEFEAGISK	C111 C111 C111 C111 C111 ;X ;X ;	3.33103303 6	Q5VTE0	3
FSLPGATC*LQGEGQGHLSQK	C239 C191 ;C239 C191 ;C239 C191 ;	3.33012	G3V1A6	3
STASEC*PSLLSTTAEDSLGGDVVDEQQQEDLEEK	C47 C111 C213 ;C47 C111 C213 ;X ;	3.32915	A0A0R4J2F 6	2
KVDC*PGPGSGAEGSGPGSVVPGSSGVGTPR	C394 C1022 ;C394 C1022 ;X ;	3.32467	A0A0G2JR Y5	3
HFSQAPC*SLSTSPLQTR	C845 ;C845 C645 ;C845 ;	3.323468	Q96H55	3
WG TIEVENTTHC*EFAYLR	C513 C367 C512 C524 C531 C513 C367 C512 C524 C531 ;C513 C367 C512 C524 C531 ;C513 C367 C512 C524 C531 ;	3.31091166 7	Q9UHD8	3

TAGFSPDCIMDDAINILQNETSDRYVSWC*K	X ;C130 ;C130 ;	3.308315		2
NYVTVMQNNPLTSGLEPSPQC*DYIRPSLTGK	C202 C266 ;C202 C266 ;C202 C266 ;	3.30122375	P16333	3
THC*PYAVALPEVAPAQPLTEALR	C673 ;C673 ;C673 ;	3.29263	Q6PJG6	3
SELC*LDLPDPPEDPVALETR	C249 C249 C249 ;C249 C249 C249 ;C249 C249 C249 ;	3.28947	Q63ZY3	3
C*DQDAQNPLSAGLQGAC*LMETVELLQAK	C261 C124 C258 C240 C256 ;C240 C256 C245 C256 C240 C256 ; C140 C242 C240	3.2837625	F8W1I6	3
C*LSPGSWASAAPSGPQLTSEQLTHVDSEGR	C461 C445 C461 C358 ;X ;C461 C445 C461 C358 ;	3.28315	Q9NZB8	2
EFQQNNWHAVGC*GFR	C58 C58 C58 ;X ;C58 C58 C58 ;	3.28116	E5RJR3	2
EALEAESAWC*YLYGTGSGVAGVYLPGSR	C3821 C3821 ;C3707 C3707 C3707 C3707 ;C3707 C3707 ;	3.28100090 9	Q15149	3
QAVLGAGLPSTPC*TTINK	C119 ;C119 ;X ;	3.27812444 4	P24752	3
TFQVLGNLYSEGDC*TYLK	C595 C548 C486 ;X ;X ;	3.27791666 7	Q96RQ3	2
STPYEC*GFDPMSPAR	C39 ;C39 ;C39 ;	3.2774475	P03897	3
IC*ELLPEAAINDVYLAPLLQCLIEGLSAEPR	C291 C436 C291 C436 ;C291 C436 C291 C436 ;C291 C436 C291 C436 ;	3.27651941 2	Q14974	3
KPTDGASSNC*VTDISHLVR	C369 C710 C708 ;C369 C644 C710 C708 C138 C342 ;C369 C644 C710 C708 C342 ;	3.27441571 4	P49321	3
VQEAPIDEHWIIEC*NDGVFQR	C91 ;X ;C91 C91 ;	3.27010875	Q14353	3
MVRPNQDGTLIASC*SNDQTVR	C252 C84 ;X ;X ;	3.264305	P43034	2
LSPC*VPAKPPLAEFEEGLLDR	C481 ;C481 ;C481 ;	3.2585275	Q15742	3
C*ALMEALVLISNQFK	X ;C646 ;C646 ;	3.25665		2
YLC*DEQKELQALYALQALVVTLEQPPNLLR	C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429 ;C1321 C1352 C1516 C1523 C1476 C1430 C1353 C1477 C1320 C1517 C1429 ;X ;	3.254985 3.25483666 7	Q04637	2
LALFNPDVC*WDR	C44 ;C44 ;C44 C44 ;		O00483	3
MTNHC*VFSANEDHETIR	C21 C97 C97 ;C21 C97 C97 C97 C97 C97 C97 C97 C97 ;C21 C97 C97 ;	3.24686	B5MCH7	3
SNFLNC*YVSGFHPSDIEVDLLK	X ;X ;C45 ;	3.24397		2
EEGTSQAPNKDPTAAAAALNGGHC*LAQPAAEPGLGAV VR	C197 C197 C197 C197 C197 ;C197 C197 C197 C197 C197 ;X ;	3.237025 3.23107333 3	K4DIA9	2
AC*VLQNPQTIMHIQDPASQR	C79 ;C79 ;C79 ;		O95544	3
FSHQGVQLIDFSPC*ER	C384 C384 ;C384 C384 ;C384 C384 ;	3.22172857 1	P55884	3
MVSTPIGGLSYVQGC*TK	C64 C64 C89 C64 C64 ;C64 C64 C89 C64 C64 ;X ;	3.21894	Q96CM8	2
VLSSSGSEAAVPSVC*FLVPPPNQEAQEAVTR	C992 ;C878 ;C878 ;	3.210315	Q15149	3
C*QNALQQVVAR	C602 C620 ;X ;X ;	3.195465	Q06210	2

VLPNLP*VVQEGAIMAR	C129	3.19042857 1	Q53H96	3
YASIC*QQNGIVPIVEPEILPDGDHDLKR	C232 C178 ;C232 C178 C232 C178 ;C232 C178 C178 ;	3.18812727 3	P04075	3
ISSINSISALC*EATGADVEEVATAIGMDQR	C241	3.18582913	O60701	3
LSSC*DSFTSTINELNHCLSLR	C92 C92 ;X ;C92 ;	3.184072	P07814	2
AGIPC*PTVVLLK	C330 C346 C346 ;X ;X ;	3.176235	B4E1Q4	2
TATGC*YIGWCK	X ;X ;C74 C69 C74 ;	3.164885		2
DPALC*QHKPLTPQGDELSEPR	C1320 C990 ;C1320 C990 ;X ;	3.14155	Q8NFA0	2
IC*DQWDNLGALTQK	C480 C480 C480 C480 ;X ;C480 C480 C480 C480 ;	3.13963428 6	P12814	3
ASHNNTQIQVVSASNEPLAFASC*GTEGFR	X ;C111 C112 ;X ;	3.13615666 7		2
NC*VLLSRPEISTDER	C484 C854 C853 ;X ;X ;	3.13558	E9PDM8	3
FC*TGGEAEPSPGLLLSCGSGSAAPAPGVGQQR	C6 ;X ;C6 C6 ;	3.12908	P35790	2
GELLGC*FGLTEPNSGSDPSSMETR	C176 C176 ;X ;C176 C176 ;	3.127745	Q92947	2
ANC*IDSTASAEAVFASEVK	C268 ;C268 C244 C183 C206 ;C268 C244 C183 C206 ;	3.126663	P22087	3
AAVLVQQWVSYADTELIPAA*GATLPALGLR	C112 ;C31 C112 C31 C112 ;X ;	3.12347666 7	P26640	2
AGC*AVTSLASELTK	C1227 C1218 C1227 C1183 C1218 C1203 ;C1227 C1218 C1227 C1183 C1218 C1203 ;C1227 C1218 C1227 C1183 C1218 C1203 ;	3.11418909 1	O60610	3
C*PWAIPQNTISCSLADVMSEQLAK	C22 C22 C22 ;X ;C22 C22 C22 ;	3.1117125	B4E1Q4	3
EENVGLHQTLDQTLNELNC*I	C283 C109 C247 ;C283 C109 C247 ;C283 C109 C247 ;	3.10778411 8	P67936	3
ATVAPEDVSEVIFGHVLAAGC*GQNPVR	C65 C65 C65 ;C65 C65 ;C65 C65 ;	3.10732434 8	Q9BWD1	3
QEEVC*VIDALLADIR	C971 C971 ;C971 C971 ;X ;	3.10280666 7	Q27J81	2
C*EFQDAYVLLSEKK	C237 ;C237 ;C237 ;	3.10246405 4	P10809	3
FDDYQGSLLAGQC*EEAVAPLVTATIER	C23 C23 ;X ;	3.09896	Q6ZV70	3
SAVLQPGC*PSVGIPHSYVNAQLEK	C22 ;C22 ;C22 ;	3.093862	Q9P253	3
LLQPDFQPVC*ASQLYPR	C265 C201 C258 ;C265 C201 C258 ;C265 C201 C258 ;	3.093225	Q9UJW0	3
DPETLVGYSMVGC*QR	C135 ;C135 ;C135 ;	3.07891285 7	P49327	3
TYITDPVSAPC*APPLQPK	C342 C364 ;C201 C364 C342 C364 ;X ;	3.073852	A0A087WZ F1	3
VTEPSAPC*QALVSIGDLQATFHGIR	C795 ;C795 ;C795 ;	3.07315666 7	Q9UPN7	3
AC*YLSINPQKDETELEK	C222 ;C222 ;X ;	3.07270272 7	P61163	3
APPPVFYNKPPEIDITC*WDADPVPEEEEGFEGGD	C678 C634 C632 ;X ;X ;	3.07146166 7	Q16643	3
TLQNTMVNLALENAC*DEATYQLGLDMEELIEEEDAGL GNGGLGR	C109 C109 ;C109 C109 ;C109 C109 ;	3.0710525	P11217	3
TIAEC*LADELINAAC	C193 C172 C172 C193 C172 C172 ;C193 C172 C172 ;C193 ;	3.06172	M0R0R2	3

VSYPLCFIFSSPVGC*KPEQQMMYAGSK	C109 C96 C96 C47 C55 C63 C96 ;X ;C109 C96 C96 C47 C55 C63 C96 ;	3.06153	G3V4P8	2
EVIIVSCGPAQC*QETIR	C162 C71 ;X ;X ;	3.0602075	P38117	2
ALC*HLNVPVTVVLDAAVGYIMEK	C169 ;C169 ;X ;	3.05849333 3	Q14232	3
GC*LLYGPPGTGK	C170 C184 ;C170 C184 ;C170 C184 ;	3.05615125	P62333	3
VNELDGIPLILDNC*NISDSNPFLTQWVIYAIR	C405 C341 ;X ;X ;	3.054025	Q9UBB4	2
AILQQLGLNSTC*DDSILVK	C813 C812 C801 C817 ;C813 C812 C801 C817 ;C813 C812 C801 C817 ;	3.052785	P19367	3
SQEATEAAPSC*VGDMADTPR	C230 C84 C229 C241 C248 ;C230 C84 C229 C241 C248 ;C230 C84 C229 C241 C248 ;	3.04992333 3	Q9UHD8	3
ASLLSAPPC*R	C1412 C1425 ;X ;X ;	3.04895	Q9NZM1	2
VC*EDLDTSVNLAWTSGTNCTR	C210 C210 ;X ;C210 C210 ;	3.04774666 7	AOA0A0MR 02	2
IIAIANYVC*R	C581 C525 C637 C581 C581 C525 C637 C581 ;C581 C525 C637 C581 ;C581 C525 C637 C581 ;	3.046195	Q16666	3
LLDSMHEVVENLLNYC*FQTFLDK	C639 C651 C736 C710 C737 C647 ;X ;X ;	3.040745	P04150	2
GILLYGPPGC*GK	C259 C264 ;C259 C264 ;C259 C264 ;	3.036916	I3L0N3	3
EDLNC*QEEEDPMNK	C139 C139 ;X ;X ;	3.0343	K7ENA8	2
AHGLSLIPSTGLC*SPDLVNR	C244 C413 C306 C391 C388 C397 C412 C406 C382 C407 C355 C300 ;X ;X ;	3.032375	O75030	2
FC*NILIGIMVEFCDNPKTAAHVNAWQGK	X ;C608 C626 C626 C209 ;C626 C608 ;	3.030905		2
LPITVLNGAPGFINLC*DALNAWQLVK	C241 C240 C241 C240 ;C241 C240 ;X ;	3.0293325	P31939	3
LGQPAAEQQLHAGPATEEPGPC*LSQQLHSASAEDTPVV QLAAETPTAESK	X ;X ;C126 C459 ;	3.02836333 3		2
LPSSSTWQQSNTTAC*QSQATLSLAEIQK	C959 C932 C960 C938 C932 ;X ;C959 C932 C960 C938 C932 ;	3.02821333 3	Q6Y7W6	2
EIYTHFTC*ATDTK	C310 C326 C310 C289 C326 C274 ;X ;X ;	3.02667	P04899	2
KPNSVVISC*GMK	C270 C270 ;C270 C270 ;X ;	3.02525	A8MZF9	2
IGEGLDQALPC*LTELILTNNLVELGDLDPPLASK	C89 C89 C89 C89 ;X ;C89 C89 ;	3.01941142 9	HOYKK0	2
ENVNVEEMFNC*ITELVLR	C163 C147 C163 C147 ;C163 C147 ;X ;	3.01171416 7	Q15286	3
SHSDNDRPNC*SWNTQYSSAYYTSR	C166 C167 ;X ;C166 C167 ;	3.00981333 3	O75494	2
GFGFVTYSC*VEEVDAAMCARPHK	X ;C63 C85 ;C63 C85 ;	3.00942666 7		2
GVSLPLGFTFSFPC*QQNSLDESILLK	C606 ;C606 ;X ;	3.00807	P52789	2
ATILDLSC*NK	C48 ;C48 ;C48 ;	3.00784666 7	Q96AG4	3
LSC*QNLGAVLDDVPVQGFFK	C361 ;C361 ;X ;	3.00599	Q14690	2

GFSAISCTVEGAPASFGK	C33 C33 C33 C33 ;C33 C33 ;X ;	2.994308	Q96EY5	2
EHINLGC*DMDFDIAGPSIR	X ;C127 ;C127 C127 ;	2.99235		2
LC*PQFLQLASANTAR	C264 C264 C264 ;C264 C264 C264 ;C264 C264 C264 ;	2.98671857 1	O95630	3
AGQIDPEPVMPPQQVEQMEIPPVELPPEEPPNIC*QLIPE LELLPEKEK	C513 C58 ;X ;X ;	2.980545	O60216	2
TCLPAPC*PSSSNISLWNILR	C453 C484 C489 C520 ;C453 C484 C489 C520 ;X ;	2.972885	Q9H4L5	2
FMADC*PHTIGVEFGTR	C40 C40 C40 C40 ;C40 C40 ;C40 C40 ;	2.97152833 3	P61106	3
DLEEDHAC*IPIKK	C567 ;X ;X ;	2.97020333 3	P13639	2
GFC*HLCDGQEACCVGLEAGINPTDHLITAYR	X ;C91 C129 ;C91 C129 ;	2.96991		2
VSETC*IVPAWLPSLPDEVFLEEAPLVR	C376 C376 ;X ;X ;	2.96954	Q2M3G4	2
LICC*DILDVLDK	C98 ;X ;C76 C98 ;	2.96880727 3	P62258	3
LPILIFPEGTC*INNTSVMFMK	C325 C306 ;C306 C325 ;C325 C306 ;	2.96452	Q86UL3	3
SLVQNNCLSRPNIFLC*PEIEPK	C145 C145 C145 C145 ;C145 C145 C145 C145 ;X ;	2.9586225	Q8TAQ2	3
LGPGRPLPTFPTSEC*TSDEVPDTR	C73 C73 ;C73 C73 ;C73 C73 ;	2.956841	Q8TDD1	3
C*ISEVQANNVVLGQYVGNPDGEGEATK	C294 C324 C340 ;C294 C324 C340 ;C294 C324 C340 ;	2.95626666 7	P11413	3
ELHGQNPVVTTPC*NK	C159 C159 C159 C159 C159 C159 C159 C159 ;C159 C159 C159 C159 ;X ;	2.949175	Q16630	2
KPASFMTSIC*DER	C835 ;X ; C845 M831 C845 ;M841	2.94624	P53396	3
AALVVDNGSGMC*K	X ;C17 ;X ;	2.94484		2
VMAEALGVSVDYTFEDC*QLALAEGQLR	C314 C314 C314 ;C269 C314 C269 C314 ;X ;	2.943558	Q8NF37	2
ITWDELAASGLPSC*DAAVNLAGENILNPLRR	C78 C52 ;X ;X ;	2.9387075	Q9NRG7	2
SSC*STLPDYLLYQCQK	C1044 C1119 ;X ;X ;	2.935155	Q9UPM8	2
YNPGSMNIVSNASC*TTNCLAPLAK	C156 ;X ;X ; C224 M148	2.93481952 4	O14556	3
ITNSLTVLC*SEK	C86 C158 C207 C153 C66 ;C86 C158 C207 C153 C66 ;C86 C158 C207 C153 C66 ;	2.93404666 7	HOYGJ7	3
NVC*LPPEMEVALTEDQVPALK	C552 C535 ;C552 C535 ;C535 C552 C535 ;	2.92413333 3	E7EVA0	3
IGSSLYALGTQDSTDIC*K	C264 C276 C148 ;C264 C276 C148 ;C264 C276 C148 ;	2.92352666 7	Q9UNH7	3
EQPQLTSTC*HIAISNSENLLGK	C772 C773 ;C772 C773 ;X ;	2.91731	A0A087WV 66	2
SVTYTLAQLPC*ASMALQILWEAAR	X ;C137 ;C137 ;	2.91514		2
VAAALENTHLLEVVNQC*LSAR	C158 C158 ;C158 C158 ;C158 ;	2.91434285 7	Q9Y3D0	3
GLGTDEDSLIEIC*SR	C151 C133 C151 C133 C151 C133 ;C151 C133 C151 C133 ;C151 C133 C151 C133 ;	2.91123866 7	P07355	3
LLAAGC*GPGLLADAK	C222 C194 C222 ;X ;X ;	2.90945	H3BSG0	2

LTGAGGGGC*GITLLKPGLEQPEVEATK	C287 C58 C339 ;C287 C58 C339 C287 C58 C339 ;X ;	2.909074	F5H8H2	2
HDDSSDNFC*EADDIQSPEAEYVDLLNPER	C166 C166 C166 C166 ;C166 C166 C166 C166 ;C166 C166 C166 ;	2.90713258 1	Q96HE7	3
LIC*LVTGSPSIR	C590 ;C590 ;X ;	2.90278	Q6PI48	2
TPTKPSSLNQLVSVDC*K	C991 ;X ;C991 ;	2.90097857 1	Q9NZV1	3
SLREC*ELYVQK	C18 ;X ;X ;	2.89996333 3	P10644	2
RPGTSPALLQGTAEEDHVDLSLSC*TLVPR	C117 ;C117 ;C117 ;	2.89345	P38936	3
VDVEC*PDVNIIEGPEGK	C2806 ;C2806 ;C2806 ;	2.89313	Q09666	3
SC*SGVEFSTSGSSNTDTGK	C47 C47 ;C47 C47 ;C47 C47 ;	2.88662857 1	A0A0A0MR 02	3
VMPFSTAC*NTPLSNFESHQNYK	C185 C185 ;C75 C185 C185 ;X ;	2.8845	A0A0A0MS X9	2
RLEGIENDTQPILLQSC*TGLVTHR	C26 C26 C26 C26 ;C26 C26 C26 C26 ;C26 C26 C26 C26 ;	2.8840925	O95425	3
AGC*SIVEKPEGGGGYQFPDWAYK	C5 C5 ;X ;C5 C5 ;	2.88055	P41162	2
C*FSIDNPGYEPEVVAVHPGGDTVAIGGVDGNVR	C438 ;C438 ;C438 ;	2.88042777 8	O75083	3
ADC*PPGNPAPTSNHGPDATEAEEDFVDPWTVQTSSAK	C21 C62 ;X ;X ;	2.8789075	P23381	3
MSPLSIVTALVDKIDMC*K	C95 C164 C122 C155 ;C95 C164 C122 C155 C95 C164 C122 C155 ;C95 C164 C122 C155 C95 C164 C122 C155 ;	2.87527875	Q9Y305	3
LGC*NITISEDITPR	C38 C38 ;C38 C38 C38 C38 ;C38 C38 ;	2.87479230 8	Q96FJ0	3
TFVSGAC*DASIK	C204 ;C204 C204 ;C204 C160 ;	2.8718375	P62879	3
TC*DGVQCAFEELVEK	C155 C268 C131 C184 ;X ;X ;	2.868115	Q9NP72	2
EGC*TVSPETISLNVK	C393 C394 C376 C430 C412 C375 ;C393 C394 C376 C430 C412 C375 ;X ;	2.86709	E5KLJ6	2
TVPVGGVVKSVAVNPNPAVC*LVAAAVEDSVLLLNPALG DR	C357 C469 ;X ;C357 C469 ;	2.861445	Q14137	2
NMITGTAPLDGC*ILVVAANDGPMPQTR	C147 ;X ;X ;	2.858139	P49411	3
GYDAPLC*NLLLFK	C379 C420 ;X ;X ;	2.85738	O60488	2
C*SLQAAAILDANDAHQTETSSSQVK	C487 C525 ;X ;C494 C487 C525 ;	2.8570125	Q9UHB9	3
GLIAAIC*AGPTALLAH	C106 C86 C106 C86 ;X ;C106 C86 ;	2.85514153 8	Q99497	3
IAILTC*PFEPKPK	C253 C215 C232 C253 C215 C232 ;C253 C215 C232 ;C253 C215 C232 ;	2.853561	P48643	3
FSSSDFSDLSNGEELQETC*SSSLR	C440 C116 C468 C133 C468 C468 C468 C433 C443 ;C440 C116 C468 C133 C468 C468 C468 C433 C443 ;X ;	2.85055	P23497	2
GFLFGPSLAQELGLGC*VLIR	X ;C83 C83 C83 C83 ;C83 C83 C83 C83 ;	2.847605		2
YC*FPNYVGRPK	C34 C34 ;X ;X ;	2.84131	P61163	2
NIIQPPSCVLHYYNVPLC*VTEETFTK	C459 C430 C464 C464 C459 C430 ;C459 C430 C464 C464 C459 C430	2.84079333 3	Q8WVV9	3

	;C459 C464 C464 C459 ;			
KC*EPIIMTVPR	C396 C349 C343 ;X ;X ;	2.8387175	Q9ULV4	3
SHLMSLYSAC*SSEVPHGPVDQK	C142 C109 ;C142 C109 ;C142 C109 ;	2.83660333 3	O95816	3
LAIIVDEGGDALLVSLVC*R	C86 ;C86 C86 C86 C86 ;C86 C86 ;	2.83364166 7	A0A0B4J2E 5	3
YDGSTIVPGEQGAEQHFQIQQC*TDDVR	C52 ;X ;X ;	2.83046666 7	Q14019	3
VMATSGC*AAIRFIIR	C198 ;X ; C198 M426 C198 M199 C432 M193 C204 M427 C431 M427 C432 ;M193	2.82906	O75122	2
ISPVYHFVFTNESNETDYVPLPIIDSVEC*NK	C342 C384 C254 ;C342 C384 C254 C342 C384 C254 ;C342 C384 C254 C342 C384 C254 ;	2.82564333 3	Q6ZMK1	3
LNILQEGHAQC*LEAVR	C230 C214 ;X ;X ;	2.824725	Q6NXT1	2
HAC*VPVDFEEVHVSSNADEEDIR	C81 C81 C81 ;C81 C23 C58 C81 C81 C81 C23 C58 C81 C81 ;X ;	2.82220166 7	P51553	2
YSYVC*PDLVK	C235 ;C235 ;X ;	2.8195075	P61158	2
SVPC*ESNEANEANEANK	C16 ;X ;X ;	2.81319	Q9NS25	2
TDLVPAFQNLKDC*EAEVR	C294 ;X ;X ;	2.81162	P30153	2
HLAGELGYQPEHIDSFTHEAC*PVR	C287 C381 ;C287 C381 ;C287 C381 ;	2.8087975	P08138	3
GQAGGGPGTGPGLGEAGSLATC*ELPLAK	C45 ;C45 ;C45 ;	2.807465	Q9Y3D2	3
GDC*TVLKPTLMAAVPEIMDR	C322 C363 ;C322 C363 C322 C363 ;C322 C363 ;	2.805402	O60488	3
LVMSYVAAVC*GK	X ;M122 C129 ;X ; C129 M122	2.80409		2
QSLLC*PK	C27 ;C27 C27 C27 ;X ;	2.80038	Q56VL3	2
C*PNPEEGESVLELSLR	C303 ;X ;C303 ;	2.80012	Q6PCE3	3
AKPYEGSILEADC*DILIPAASEK	C209 C376 C243 ;X ;C209 C376 C243 ;	2.79978	P00367	2
SLQQPGLPSQSC*SVQSSGGQPPGR	C195 C515 C435 ;C195 C515 C435 ;X ;	2.79776	Q5T4K5	2
ELQIC*PATAGSGPAATQDFSK	C1119 C1100 ;C1119 C1100 ;X ;	2.783935	P00519	2
EC*LQHPGGATPVCVYTR	C127 ;C127 ;C124 C50 C127 C127 ;	2.783215	Q9BZE9	3
C*AEGYALYAQALTDQQQFGK	C475 ;X ;X ;	2.77696	O94826	2
VETELQGVC*DTVLGLLDShLIK	C96 ;X ;C96 ;	2.77610666 7	P31947	2
EGGQYGLVAAC*AAGGQGHAMIVEAYPK	C458	2.77363857 1	P55084	3
NLC*SQMSAVSGPLLQWLEDR	X ;C248 C204 C250 C274 C273 C274 C159 C249 ;C248 C204 C250 C274 C273 C274 C159 C249 ;	2.76942		2
AC*LIFDFEIDAIGGAR	C270 ;C270 C133 C270 C133 C270 C133 ;C270 C133 C270 C133 C270 C133 ;	2.76858615 4	P35998	3
VDVFREDLC*TK	C22 ;C22 ;C22 ;	2.76654333 3	Q06323	3
VVNSETPVVDFHAQWC*GPKC	C90 C90 ;X ;X ;	2.76130285 7	F8WDN2	3

	C188 C188 C188 C188 C188 C188 C188 C188 ;X ;C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C188 C61 C188 C188 C188 C188 C188 C188 C188 C188 C61 C188 C188 C188 C188 C188 C188 ;			
AYLEGC*VEWLR		2.75815	P01892	2
YIYDQC*PAVAGYGPIEQLPDYNR	C453 ;C453 ;X ;	2.75636	P31930	2
LAEQC*GGLQGFLIFRSFGGGTSGSFTSLLMER	C136 C96 ;X ;X ;	2.74800333 3	A6NHL2	3
HGEVC*PAGWKPG	C173 C245 ;X ;X ;	2.7462225	Q06830	3
GSDASDFDLLETQSAC*SDTSESSAAGGQNSR	C7548 C7344 ;C5330 C7548 C7344 C5256 C5386 C7511 ;X ;	2.74153	H3BQK9	2
TLAPSLPC*PGGR	X ;C144 C144 ;C144 C144 ;	2.74118		2
WNDNC*PSWNTIDPEER	C301 ;C301 C301 ;C301 ;	2.74011416 7	P17655	3
IDPNMFADGQMDDLVC*FEELTDYQLVSPAK	C49 C49 C49 C49 ;X ;X ;	2.735005	Q9GZR7	2
AHTVLAASC*AR	C104 ;C104 ;X ;	2.7311775	Q8WUY1	2
DAIITC*NPEEFIVEALQLPNFQQSVQEYR	C422 C441 C401 ;C422 C441 C401 ;X ;	2.72736166 7	G5E9D5	3
YSNSDVIIYVGC*GER	C277 C277 ;C277 C277 ;C277 C244 ;	2.72642944 4	P38606	3
MIHSLFLINC*SGDIFLEK	C10 ;C10 ;X ;	2.72558333 3	Q9Y2T2	3
AAAGELQEDSGLC*VLAR	C172 ;C172 C172 ;C172 ;	2.71420083 3	Q96C19	3
LLEQAEAEGC*QR	C326 ;C326 ;X ;	2.71251666 7	Q9UBN6	2
IVLAGC*PEVSGPTLLAK	C39 ;X ;X ;	2.7098175	Q96EM0	3
VC*NYGLTFTQK	C65 C65 C65 C66 C66 C66 ;C65 C65 ;C65 C66 ;	2.70980076 9	Q9Y277	3
YQEAPNVANNTGPHAASC*FGAK	C564 C295 C517 C564 C618 C618 C517 C618 C295 C564 C618 C295 C517 C517 C517 C295 C295 C564 C618 C517 C295 C618 C517 C564 C564 C618 C517 C295 C564 C564 C618 C618 C295 ;C564 C295 C517 C564 C618 C618 C517 C618 C295 C564 C618 C295 C517 C517 C517 C295 C295 C564 C618 C517 C295 C618 C517 C564 C564 C618 C517 C295 C564 C564 C618 C618 C295 ;C564 C295 C517 C564 C618 C618 C517 C618 C295 C564 C618 C295	2.708804	O60716	3

	C517 C517 C517 C295 C295 C564 C618 C517 C295 C618 C517 C564 C564 C618 C517 C295 C564 C564 C618 C618 C295 ;			
TIC*AILENYQTEK	C438 C460 ;C438 C460 ;X ;	2.7026625	P49591	2
GLC*GAIHSSIAK	C103 C103 ;C103 C103 ;X ;	2.70070714 3	P36542	3
SSSC*GDETELLGQATLPVGSRSRPLSR	C359 C359 C107 ;C359 C359 ;C359 C359 C107 ;	2.69832	O14523	3
IVDAVIQEHQPSVLELGGAYC*GYSVR	C119 ;X ;C119 C69 C119 C69 ;	2.69781142 9	P21964	3
LSFDSSPTSSTDGHSYGLDSGFC*TISR	C161 C161 ;X ;C161 C161 ;	2.69729	Q00587	2
LQEALDAEMLEDEAGGGGAGPGGAC*K	C57 C57 C57 C57 C57 C57 ;C57 C57 C57 C57 ;C57 C57 ;	2.6971975	H3BQZ7	3
SVVC*QESDLPDELLYGR	C187 ;C187 ;C187 ; X ;C444 C485 ;C444 C485 ;	2.69558333 3	Q9NS86	3
EVDLYALGLILAEELLHVC*DTAFETSK	X ;C93 ;C93 ;	2.694335		2
IDILINC*AAGNFLCPAGALSFNFK	C113 ;X ;X ;	2.69069	Q9NUI1	2
LC*YVALDFEQEMATVASSSLEK	C917	2.6906275	A5A3E0	3
TCDGVQC*AFEELVEK	C160 C273 C136 C189 ;C160 C273 C136 C189 C115 ;C160 C136 C189 ;	2.6893825	Q9NP72	3
SAGVQC*FGPTAEAAQLESSKR	X ;C93 ;C93 ;	2.689225		2
EAFEETHLTSLDPVKQFAAWFEEAVQC*PDIGEANAMCL ATCTR	C72 C72 C72 ;X ;C72 C72 ;	2.6881	Q9NVS9	2
AGALQC*SPSDAYTKK	C1939 ;X ;X ;	2.686815	Q9Y490	2
LAVPASLDVC*DNWLRPEPPGQEAR	C676 C265 C464 ;X ;X ;	2.68624333 3	Q8IY33	2
KAQC*PIVER	C87 C66 C66 C87 C66 C66 C87 C66 C66 ;X ;X ;	2.67755625	M0R0R2	2
FIC*EQDQHQLR	C658 C614 ;C658 C614 ;C658 C614 ;	2.67707625	Q92598	3
IDATQVEVNPFGETPEGQVVC*FDAK	C255 C255 ;C255 C255 C255 ;X ;	2.676665	Q96I99	2
C*LGHPPEEFYNLVR	C6 C6 C6 ;C6 C6 C6 ;C6 C6 ;	2.67359666 7	P37268	3
AAIGC*GIVESILNWVK	X ;C441 C405 C431 C486 C441 C405 C431 C486 ;C441 C405 C431 C486 ;	2.66939		2
VFIMDSC*DELIPEYLNFR	C366 ;M363 C366 ;	2.66438657 5	P08238	3
LLVTSGLPGC*YLQVWQVAEDSDVIK	C106 C106 C106 C106 ;C106 C106 ;X ;	2.66309333 3	HOYMT3	2
KTSC*EFTGDILR	C112 ;C112 ;X ;	2.661945	P21281	2
SESELIDELSEDFDRSEC*K	C423 C381 C381 C464 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104 C442 C96 C445 C368 ;C423 C381 C381 C464 C68 C367 C429 C263 C133 C124 C139 C359 C346 C427 C340 C104 C367 C309 C104	2.6619125	P20810	3

	C442 C96 C445 C368 ;X ;			
VPLDVAC*AR	C3295 ;C3181 ;X ;	2.66079	Q15149	2
GC*PPVFNTLR	C322 ;X ;X ;	2.656025	Q9BXJ9	2
KEAESC*DCLQGFQLTH	C109 C127 C127 C127 ;C109 C127 C127 ;X ;	2.65581333 3	Q5JP53	2
AGYLMSVESSEC*FLEEVGSQALVAGSYMPPSTVLQQID SVANADIINAAC	C391 ;C391 C391 ;C391 ;	2.65354	P22695	3
HLGGIPWTYAEDAVPTLTPC*R	C268 ;C268 ;C268 ;	2.652904	P31930	3
RGPEVTSQGVQTSSPAC*K	C732 C813 C627 C892 C627 C892 C892 ;C732 C813 C270 C603 C627 C892 C627 C31 C892 C892 ;X ;	2.65259	V9GY86	2
SVLLCGIEAQAC*ILNTTLDLLDR	C114 C114 C114 C114 C114 C114 ;C114 C114 C114 ;C114 C114 C114 ;	2.64731875	K7ENV7	3
VTAVDWHFEEAVDGECP*PPQR	C1374 ;X ;C1374 C1311 ;	2.641865	P27708	2
QPAIMPQSYGLEDDGSC*SYKDFSES	C413 C472 ;C339 C413 C472 ;C413 C472 ;	2.64013714 3	M0QXS5	3
QMFEPVSC*TFTYLLGDR	C34 C34 ;C34 C34 ;X ;	2.63792	O95571	3
LTLPNGEPVPC*LLLANK	X ;C96 C48 C120 C96 C48 C120 ;C120 C120 ;	2.63519		2
LLQHLLEAC*GR	X ;C159 C171 ;X ;	2.63385333 3		2
GSDC*GIVNVNIPTSGAEIGGAFGGEK	C478 C450 C478 C450 ;C478 C441 C450 C414 C414 ;C478 C441 C450 C414 C414 ;	2.630555	P49419	3
VTQNLPMKEGC*TEVSLLR	C308 C308 ;C308 C308 ;C308 C308 ;	2.6265825	H3BQZ7	3
C*AIQNAPNPGGGDLQK	C137 C137 ;X ;X ;	2.62313333 3	AOA0A6YY 96	2
FCSFSPC*IEQVQR	C209 C111 ;C209 C111 ;X ;	2.622496	Q96FX7	2
LSQERPGVLLNQFPC*ENLLTVK	C361 ;C361 ;C361 ;	2.621474	Q14166	3
C*ELSSSVQTDINLPYLTMDSGPK	C317 ;X ;C317 ;	2.621236	P38646	3
TTSILC*LAR	C88 ;C88 ;C88 C88 ;	2.620564	P35250	3
DGIILC*ELINK	C59 ;X ;X ;	2.619545	Q15417	2
VLMVEEPSMNLEWLYGC*PPPYHTFEPPVYMK	C498 ;X ;C498 ;	2.61527117 6	P00395	3
ATDSKEPPGELC*PDVLYR	C46 C46 C46 C46 ;C46 C46 C46 C46 ;C46 C46 C46 C46 ;	2.61526333 3	Q9BUK6	3
DKEPEVVFIGDSLVLQMHQC*EIWR	C55 ; C55 M52 C55 ;M52	2.61241115 4	Q15102	3
AVGYSC*MPSNK	C180 C132 ;X ;X ;	2.609335	Q7Z3B4	3
ITHSPLTIC*FPEYTGANKYDEAASYIQSK	C271 C287 C271 C250 C287 C235 ;X ;C271 C287 C271 C250 C287 C235 ;	2.6087	P04899	3
GTEAGQVGEPIGTGEAGPSC*SSASDK	C241 ;C241 ;X ;	2.608218	O15355	2
HFIMQVVEATQC*	C83 C228 ;X ;C83 C228 ;	2.60712	Q14974	2
APPTAC*YAGAAPAPSQVK	C225 C248 C50 ;X ;X ;	2.606166	P17676	2
TGIEQGS DAGYLC*ESQK	C322 ;C322 ;X ;	2.60520333 3	P40939	2

LLGPTVMLGGC*EFSR	C667 ;C667 ;C667 ;	2.60427714 3	Q8N9T8	3
HNQVESIFLSAIDMYGHQFC*PENLKK	C1259 M1051 C1189 ; C1189 ;X ;M1253 C1057 M1183	2.60364333 3	O00763	2
DLPTSPVDLVINCLDC*PENVFLR	C413 C413 ;C413 ;C413 ;	2.598945	Q96F86	3
IC*PVETLVEEAIQCAEK	C213 ;C213 C213 ;C213 ;	2.598881	P30084	3
ASFETLPNISDLC*LR	C52 C52 C52 C52 C52 C52 C52 C52 ;C52 C52 C52 C52 C52 C52 C52 C52 ;X ;	2.59766333 3	Q9H019	2
C*QENGQELSPIALEPGPEPHR	C217 C217 C154 C207 C154 ;X ;X ;	2.59677	O94966	2
AEVLISTVGPEDC*VVPFLTRPK	C38 C38 ;C38 C38 ;C38 C38 ;	2.59438692 3	P56192	3
AQQEQLLLQKQLQQQQQPPSQLC*TAPASSHER	C385 C527 C296 C385 C527 C345 ;C385 C527 C296 C385 C527 C345 ;C385 C527 C296 C385 C527 C345 ;	2.592768	Q9Y2D5	3
DPLDPNEC*GYQPPGAPPGLGSMPSSSCGPR	C131 ;X ;C131 ;	2.59193333 3	Q8N5L8	2
GENLEAVVC*EEPQVK	C236 C246 C187 C163 C151 C164 ;C236 C246 C187 C163 C151 C164 ;C236 C246 C187 C163 C151 C164 ;	2.59180666 7	Q8TCZ2	3
C*SEGSFLLTTFPR	C119 C208 ;C119 C208 ;X ;	2.59111275 9	Q15233	3
ILGPGAGEMVNEAALALEYGASC*EDIAR	C429 C477 C454 C378 ;X ;X ;	2.59083615 4	P09622	3
SC*GSSTPDEFPTDIPGTK	C105 ;X ;X ;	2.590386	P41091	3
GVLAC*LDGYMNIALEQTEEVNGQLK	C36 ;X ;C36 ;	2.58979777 8	P62312	3
GC*IVDANLSVLNLVIVK	C100 C100 ;C100 C100 ;C100 C100 ;	2.58904833 3	P62753	3
LTIIVSDPSHC*NVLR	C87 C87 ;C87 C87 ;C87 C87 ;	2.588895	P78346	3
VLFPGCTPPAC*LLDGLVR	C440 C414 ;C440 C414 ;C440 C414 ;	2.58809142 9	Q66K74	3
SEVEEVDFAFWLC*K	C384 C384 ;X ;C287 C384 ;	2.58763	P36507	2
HPDFADAC*GLMNNNIEEQRR	C505 C518 C518 C518 C505 C505 C505 C505 C302 ;X ;C505 C518 C518 C518 C505 C505 C505 C505 ;	2.58653	O00429	2
DC*GATWVVLGHSER	C87 C124 ;C87 C124 ;C87 C124 ;	2.58607333 3	P60174	3
VC*NQIEFLNTEFK	C39 ;X ;X ;	2.5850925	O14879	2
DIC*NDVLSLLEK	C94 C94 ;C17 C94 ;C17 C94 ;	2.583492	P63104	3
FVPFAAVAAANC*INIPLMR	C190 ;C190 ;C190 ;	2.58142333 3	Q9H9B4	3
NSNVDSSYLESLYQSC*PR	C645 C767 ;C645 C645 C767 ;C645 C767 ;	2.57844625	Q7Z2W4	3
TEC*PPPAGASAASAASLIPPPPINTQQPGVATSLLYSGS K	C90 C90 ;C90 C90 ;X ;	2.578345	K4DI96	2
TRDGS DYEGWC*WPGSAGYPDFTNPTMR	C502 C524 ;X ;X ;	2.57697666 7	Q14697	2
AVLC*PQPTR	C178 C171 ;X ;X ;	2.575675	P15153	2

KAC*ADATLSQITNNIDPVGR	C25 ;X ;X ;	2.5754775	P62873	3
ESAQCVGDEFNLC*K	C200 ;C186 C200 C147 C147 ;X ;	2.57294	Q9Y5X2	2
GSSC*FECTHYQSFLEYR	C238 ;X ;C238 C188 ;	2.57280916 7	P21964	3
TDDYLDQPC*YETINR	C202 ;C202 ;C202 ;	2.569768	P50395	3
STLIDTLFNTNFEDYESSHFC*PNVK	C100 C100 C85 C100 C100 C100 C100 C85 C100 C100 ;C100 C100 C85 C100 C77 C100 C100 C100 C85 C100 C77 C100 C100 C100 C85 C100 C77 C100 ;X ;	2.56936375	Q9P0V9	2
QALVNC*NWSSFNDETCLMMINMFDK	C146 ;C146 ;X ;	2.56601	Q9UBV8	2
EEDLEDKNNFGAEPHQNGEC*YPNEK	C845 C801 ;C845 C801 ;X ;	2.55945333 3	Q92598	2
IYLCDIGIPQQVFQEVGINYHSPFGC*K	C499 ;X ;C499 ;	2.558472	Q96F86	3
EC*LPLIIFLR	C41 ;C41 ;C41 ;	2.55593125	P62701	3
YFAGNLASGGAAGATSLC*FVYPLDFAR	C129 C129 ;X ;C129 C129 ;	2.555654	P12236	3
SLHDALC*VLAQTVK	C395 C395 ;C395 ;C395 ;	2.55418562 5	P78371	3
IC*DQWDALGSLTHSR	C499 ;C499 ;C499 C499 ;	2.55335941 2	O43707	3
ILLNACC*PGWVR	C227 ;C227 ;C227 ;	2.55117	P16152	3
VDENFDC*VEADDDVEGK	C101 ;C101 ;C101 ;	2.55096714 3	O14929	3
LDTKYPYVC*HAELNAIMNK	C94 C83 ;C94 C83 ;X ;	2.544865	P32321	2
DNLTWTSDSAGEEC*DAAEGAEN	C237 ;X ;C237 ;	2.54466833 3	P27348	3
ENFDEVNDADIILVEFYAPWCGHC*KK	C209 ;C209 ;X ;	2.5418875	P13667	3
EC*SNIPLSQPQQGEAMLANFKPR	C248 ;X ;X ;	2.53967	Q9H2C0	2
MMYSPIC*LTQDEFHPFIEALLPHVR	C7 C7 C7 C7 C7 C7 C7 C7 ;C7 C7 C7 C7 C7 C7 C7 C7 ;C7 C7 C7 C7 C7 C7 C7 C7 ;	2.5392025	A0A087WX P2	3
LC*LISTFLEDGIR	X ;C32 C32 C32 ;C32 C32 ;	2.53817		2
LHDAIVEVVC*LLR	C470 C483 C483 C483 C470 C470 C470 C470 C470 C483 C483 C483 C470 C470 C470 C470 C267 C267 ;C470 C483 C483 C483 C470 C470 C470 C470 ;C470 C483 C483 C483 C470 C470 C470 C470 ;	2.53706461 5	O00429	3
ILNHVLQHAEPGNAQSVLEAIDTYC*EQK	X ;C83 C33 ;C83 C33 ;	2.53650333 3		2
PSSYPC*SGASTSSQATQPGPALLSHASEAR	C186 ;X ;X ;	2.53256	Q86X51	2
AYPVSGC*FDYLSDELPTIHIHGR	C1079 C1079 ;X ;X ;	2.528415	Q9BTC0	2
EC*EEEAINIQSTAPEEEHESPR	C277 C282 ;C277 C282 ;X ;	2.52824	P46939	2
LQDPKDDC*PVVNAYATLIENDSNPEVR	C177 C177 C177 ;X ;X ;	2.526802	Q9BPX3	2
C*WAAGWPR	C288 C290 ;C288 C290 ;X ;	2.51956	F5GZ78	2
MTVDESGQLISC*SMDDTV	C382 ;X ;X ;	2.51196	O75083	2
ENSTLNC*ASFTAGIVEAVLTHSGFPAK	C139 C72 C139 C72 ;C139 C139 ;C139 C139 C139 ;	2.51182461 5	Q8IUR0	3

LFIFETFC*R	C345 ;C345 ;X ;	2.50915333 3	P60228	2
TYDPSGDSTLPTC*SK	C439 ;C439 ;X ;	2.507035	Q9Y2X3	2
HQGAGDPHTSNSASLQGIDSQC*VNQPEQLVSSAPTL SAPEK	C253 C253 ;X ;X ;	2.50071666 7	Q9H9Q4	2
AITIAGIPQSIIEC*VK	C158 C158 C158 C158 ;C158 C158 ;C158 C158 ;	2.499688	Q15366	3
NC*GC*LGASPNLEQLQEENLK	C34 ;C32 C34 ; C32	2.498545	P54136	3
KAEEATEAQEVVEATPEGAC*TEPR	C189 ;C189 ;X ;	2.49797	O75683	2
LLDRDAC*DTVR	C204 C247 C204 C247 ;C204 C247 ;X ;	2.49624	Q9NZL4	2
ANEDAVPLC*MSADFP	C171 ;X ;X ;	2.48509166 7	Q9C0B1	3
TEGGGSEAPLC*PGPPAGEEPAISEAAPEAGAPTSASGL NGHPTLSGGGDQR	C2243 C1098 ;C2243 C1098 ;C925 C2243 C1098 ;	2.4849625	E7EVA0	3
ATSQPLESDAVEC*LNYQHVK	C132 C132 ;X ;X ;	2.48173065 2	P61978	3
C*QQALAELESVLSHLEDFAR	C124 C156 ;C124 C156 ;X ;	2.479015	Q15013	3
GLAAALLC*QNK	C645 ;C645 ;C645 ;	2.47823666 7	O43290	3
ICELLPEAAINDVYLAPLLQC*LIEGLSAEPR	C310 C455 ;X ;C310 C455 ;	2.47628333 3	Q14974	2
SGQAGYVPC*NILGEARPELAGAPFEQAGQK	C543 C559 ;C543 C543 ;C543 ;	2.47342875	Q9H6S3	3
DTEGGAAEINC*NGVIEVINYTQNSNETLR	C340 C527 C356 C372 C527 C340 C527 C356 C372 C527 C340 C527 C356 C372 C527 ;X ;C340 C527 C356 C372 C527 ;	2.47242428 6	Q96SB4	2
C*AGNEDIITLR	X ;C81 ;C81 ;	2.471505		2
ASHIQLDSLPEVPLLVDVPC*LSAQLDDSLNIVK	C154 C150 C154 C150 ;C154 C150 C154 C150 ;C154 C150 ;	2.47108333 3	Q8IU18	3
DNQGILYEAAPTSTLTC*DSGPQK	C141 C191 C191 C141 C191 C191 C141 C141 ;C141 C191 C191 C141 C191 C191 C141 C141 ;C141 C191 C191 C141 C191 C191 C141 C141 ;	2.46913666 7	M0R073	3
AC*PSHQPDISSGLELPPFPVPTLDNIK	C311 C284 ;C311 C284 ;X ;	2.46871666 7	Q16610	2
FDTGNLC*MVTGGANLGR	C181 ;X ;C181 ;	2.46798666 7	P62701	3
TC*NVLVALEQQSPDIAQGVHLDR	C104 C104 ;X ;C104 ;	2.46685230 8	P31153	3
MC*DFTEDQTAEFK	X ;C2 ;X ;	2.466175		2
VTTGAPIPC*GADAVVQVEDTELIR	C419 C465 C452 C419 C465 C452 ;C419 C465 C452 ;C419 C465 C452 ;	2.465808	Q9NQX3	3
SC*TDSELLHPHELLSQEFLLLTLEQK	C48 C10 C10 ;C48 C10 C10 ;C48 C10 C10 ;	2.46442857 1	Q9BVC5	3
YC*VRPNSGIIDPGSTVTVSVMLQPFDYDPNEK	C60 C60 C60 C60 ;C60 C60 C60 C60 ;C60 C60 ;	2.46404631 6	Q9P0L0	3
GPVLAEDFLDIMQPINPQC*R	C162 ;M154 C162 ;	2.46240133 3	P21281	3
AINC*PEDIVFPALDILR	C605 ;X ;C605 ;	2.459825	Q9Y263	2

SLLINEVEASC*IR	C262 C289 C262 C262 C289 C262 C262 C262 C188 C188 ;C262 C289 C232 C262 C262 C289 C232 C262 C188 C262 C188 C188 C262 C188 ;C262 C289 C262 C188 C188 ;	2.45970166 7	P32322	3
EEQLYDGYDEEYDC*PILDEDRVVDELNQMR	C53 C50 ;C53 C50 C53 ;C53 C50 C53 ;	2.458056	Q9Y3D8	3
MGIDSSDKVDFILLDNVAEQAHNLPSC*PMLK	C267 C267 C95 ;C267 C267 C95 ;C267 C267 C95 ;	2.45575571 4	Q9NPH0	3
WLSDEC*TNAAVNFLSR	C350 C380 C345 C350 C380 C345 ;C350 C380 C345 ;C350 C380 C345 ;	2.454885	A0A0C4DG A2	3
IDPFGGDPFKGSDPFASDC*FFR	C657 C523 ;X ;X ;	2.45452	P42566	3
EKIEAELQDIC*NDVLELLDK	C96 C94 ;C96 C94 ;C96 C94 ;	2.45347806 5	P31946	3
DC*GGAAQLAGPAAEADPLGR	C8 C8 C8 C8 C8 C8 ;C8 C8 C8 C8 C8 C8 ;C8 C8 C8 C8 C8 C8 C8 ;	2.449841	A0A096LP0 2	3
SC*NGPVLVGGSPQGGVDIEEVAASNPELIFK	C162 C162 ;C162 C162 C162 ;X ;	2.449048	Q96I99	2
NIC*FTVWDVGGQDK	C62 C62 ;C62 C62 ;C62 ;	2.446562	P84085	3
SVC*TEAGMFAIR	C389 C389 ;C389 C252 ;C389 C252 ;	2.44601933 3	P35998	3
YINENLIVNTDELGRDC*LINAAK	C147 C147 C147 C147 ;C147 C147 ;C147 C147 ;	2.44499666 7	E7ERF2	3
YLLQYQEPIPC*EQLVTALCDIK	C107 C107 C107 C107 C76 C83 ;C107 C107 C107 C107 C107 C107 C107 ;C107 C107 C107 C107 C83 C107 ;	2.44478285 7	P25789	3
GYDFC*QVLQWFAER	C175 C175 C175 C175 C175 C175 ;C175 C175 C175 ;C175 C175 C175 C175 C175 C175 ;	2.44391181 8	Q9H223	3
GFCHLC*DGQEACCVGLEAGINPTDHLITAYR	X ;X ;C94 C132 ;	2.44367		2
LGMLSPEGTC*K	C212 ;X ; C212 ;M205	2.442515	P49327	2
GLQGVGPGC*TDETLISAIASALHTSTMPITGQLSAAVEK	C140 C116 C172 C116 ;C140 C116 C172 C116 ;C140 C116 C116 C172 C116 ;	2.4425025 2.44068333 3	O95983	3
C*AMTALSSK	C158 ;C158 ;X ;	2.44068333 3	Q99832	2
LLAPDC*EIIQEVGKLYPLEIVFGMNGR	C215 C215 ;C215 ;C215 C215 ;	2.439925	Q9NQ75	3
LTAC*QVATAFNLSR	X ;C441 C383 C425 ;C441 C383 C425 ;	2.43878		2
FSAAC*GPPVTPECEHCQQR	C347 C376 ;C162 C347 C376 ;X ;	2.43831	Q9NXH9	2
VCNALALLQC*VASHPETR	C99 C99 C99 ;X ;C99 C99 ;	2.43802	Q92600	3
SVPFLASLSEDC*SLAVLDSSLSSEFR	C278 C278 C278 ;C278 ;C278 ;	2.43654833 3	Q9BQA1	3
QALMRCC*LVK	C46 M43 C46 ;X ;X ;	2.43625	Q9Y2W7	2

LAPYSGC*SMGEYFR	C294 C244 C272 ;X ;X ;	2.43511369 6	P25705	3
VTEDENDEPIEIPSEDDGTVLLSTVTAQFPGAC*GLR	C39 C39 C39 C39 C39 C39 C39 C39 C39 C39 ;C39 C39 C39 C39 C39 ;X ;	2.43350687 5	A0A087X26 0	3
LC*DFGVSGQLIDSMANSFVGTR	C211 C181 C207 ;X ;X ;	2.43335906 3	P36507	3
GNIPAESYFFIDILLDIRDEIAGC*IEK	X ;X ;C274 C211 C211 ;	2.432525		2
C*TPSVISFGSK	C34 C34 ;C34 C34 ;C34 C34 ;	2.432475	Q92598	3
SHLLAADAPSSAAWVQTLR	C115 ;X ;C115 ;	2.43177333 3	Q99704	2
SAYC*PYSHFVGAALLTQEGR	C31 ;C31 ;X ;	2.4301	P32320	2
VIGSGC*NLDSAR	C164 C163 C192 ;C163 C192 C164 ;X ;	2.427875	P07195	2
VNC*SQFLGLCALPGCK	C39 C39 C39 C39 C39 C39 ;X ;X ;	2.427645	H7C0S3	2
AIHTAPVATMAFDPTSTLLATGGC*DGAVR	C129 ;C129 C37 ;C129 C37 ;	2.42382454 5	Q12788	3
SLHDALC*VVK	C397 C397 ;C397 ;C397 C397 ;	2.42107375	E7ERF2	3
GVLMYGPPGC*GK	C210 C179 C210 C179 ;C210 C179 C210 C179 ;C210 C179 ;	2.42104428 6	P43686	3
SSVQEEC*VSTISSKDEPLAATR	C78 ;C78 C78 ;X ;	2.420935	Q7L0Y3	2
HSMNPFCEIAVEEAVR	C133 M38 C42 ; C42 ;X ;M129	2.41647678 6	P38117	3
LQDSFC*SGQTLWELLSHFPQIR	C109 ;C109 ;X ;	2.41604333 3	Q9BZE9	2
DKPELQFPFLQDEDTVATLLEC*K	C29 C49 ;X ;X ;	2.41603714 3	P09543	2
IHESAGLPFFEIFVDAPLNIC*ESR	C155 C155 C155 C155 ;C155 C155 C155 C155 ;C155 C155 C155 C155 ;	2.41403416 7	O95340	3
VTDDLVC*LVIK	C48 ;C48 ;X ;	2.41327	P49458	2
LQDAFSSIGQSC*HLDLPQIAVVGQSAGK	C27 C27 C27 C27 C27 C27 ;C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 C27 ;C27 C27 C27 C27 C27 ;	2.41276235 3	P50570	3
SC*TVLNVEGDALGAGLLQNYVDR	C467 ;C291 C265 C467 C239 ;X ;	2.407265	Q15758	2
HYLDQLNHILGILGSPSQEDLNC*IINLK	C254 ;X ;C254 ;	2.40626166 7	P28482	3
LIC*CDILDVLDK	C97 ;X ;X ;	2.40454125	P62258	3
IGTSGGIGLEPGTVVITEQAVDTC*FK	C162 C162 C162 C162 ;C162 C162 C162 ;C162 C162 ;	2.40397764 7	Q16831	3
NAFAC*FDEEATGTIQEDYLR	C114 C108 C109 ;C109 ;C114 C108 C109 ;	2.40267087	J3QRS3	3
GGPPC*KPPAPEDEDEAWR	C425 C437 C437 C437 ;C425 C437 C437 C437 ;C425 C437 C437 C437 ;	2.40193	P48634	3
GALMANFLTQGGVC*CNGTR	C288 ;X ;C218 C288 ;	2.3999425	P49189	2
QGEYGLASIC*NGGGGASAMLIQK	C413 ;X ;X ;	2.39875285 7	P24752	3
GQLC*ELSCSTDYR	C342 C350 C360 ;C342 ;X ;	2.39793333 3	Q99873	2

GIDQC*IPLFVEAALER	C757 C757 C757 ;C757 C757 ;C757 ;	2.397825	O95373	3
AHQLVLPCC*DVVIK	C279 C279 ;C279 C279 C354 C354 ;C279 C279 ;	2.39725333 3	Q9NZB2	3
HISPTAPDTLGC*YPFYK	C419 C384 ;X ;X ;	2.3972425	A0A087W WF6	3
SNELGDVGVHC*VLQGLQTPSCK	C75 ;C75 C75 ;C75 ;	2.3971	P13489	3
DLC*FSPGLMEASHVVNDVNEAVQLVFR	C392	2.39638296 3	Q9BXW7	3
ETARPCYSLALAQLLQSFEDLPLC*SILQQIQEK	X ;C109 C109 C29 ;C109 C109 C29 ;	2.396295		2
LC*PNSTGAEIR	C377 ;X ;X ;	2.391425	P35998	2
KLLAPDC*EIIQEVGK	C215 ;C215 ;X ;	2.38885411 8	Q9NQ5	3
IFCC*HGGLSPDLQSMEQIR	C171 C181 C172 C172 C172 C183 C172 ;C171 C181 C172 C172 C172 C183 C172 ;X ;	2.38709	P62140	2
YC*AAPTEPVIHNGSQGTGTNGSEISDSYQAEYPDEYH GEYQDDYPR	C273 ;C273 C273 ;X ;	2.38518857 1	Q15417	3
DLEQQDC*EIAQEIQEK	C85 C85 ;C85 C85 ;C85 C85 ;	2.38468875	Q8IVM0	3
C*EGINISGNFYR	X ;C37 ;C37 ;	2.3827525		2
LQGINC*GPDFTPSFANLGR	C466 C498 C662 C669 C622 C575 C498 C622 C466 C662 C575 ;X ;X ;	2.37919	Q04637	3
IC*VNGDDAHPLWK	C107 ;C107 C45 C107 C133 C170 C134 C94 C134 C107 ;C107 C45 C107 C133 C170 C134 C94 C134 C107 ;	2.37839333 3	K7EJ20	3
SGAELALDYLC*R	C107 C92 C107 C75 ;C107 C92 C107 C75 ;C107 C92 C107 C75 ;	2.378045	Q9BRJ6	3
NMQEPIALHEMDTNGVLLPFYDPDTSIIYLC*GK	X ;C336 C289 C178 C283 ;C336 C289 C283 ;	2.377145		2
ALVPLGIGIATGEQC*HNR	C307 ;C307 ;C307 C225 ;	2.374404	Q7L5Y1	3
VIGIEC*SSISDYAVK	C101 C101 C109 C119 C109 C119 ;C101 ;C101 ;	2.37380458 3	Q99873	3
AFAFVTFADDQIAQSLC*GEDLIK	C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 ;C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 ;C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 C244 ;	2.37229142 9	A0A087X26 0	3
C*LHPLANETFVAK	C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71 ;C71 C100 C71 C71 C87 C71 C71	2.36959333 3	A0A0D9SF B0	3

	C87 C71 C71 C71 ;C71 C87 C71 C71 C71 C87 C71 C71 C71 C100 C71 C71 C71 C71 C71 C71 C71 ;			
EQTGATASVIYVPPPFAAAAINEAIEAIEIPLVVC*ITEGIPQ QDMVR	X ;C142 ;C142 ;	2.36957		2
YFTQGNC*VNLTEALSLYEEQLGR	C265 C318 C265 C318 C265 C318 ;C265 C318 C265 C318 ;C265 C318 C265 C318 ;	2.3694275	P52788	3
AVLLASDAQEC*TLEEVVER	C332 C332 C332 C332 ;C332 C332 C332 C332 C332 C332 C332 C332 ;C332 C332 C332 C332 C332 C332 ;	2.36711812 5	Q27J81	3
SSLPEFQAAPAEPEPEGPELLQVTLVDC*PGHASLIR	C93 C66 ;C93 C66 C93 C93 C66 C93 ;X ;	2.36608666 7	P57772	2
SSGC*DVNLPGVNVK	C5502 ;C5502 ;X ;	2.365145	Q09666	2
AYHEQLSVAEITSSC*FEPNSQMVK	C295 C319 C229 ;X ;C295 C319 C229 C295 C319 C229 ;	2.364754	Q9NY65	3
VC*TLAIIDPGDSDIIR	C92 C92 ;C92 C92 C92 C92 ;C92 C92 ;	2.36400733 3	P62888	3
DIIEHLNTSGAPADTSDPLQQIC*K	C475 C399 ;C475 C399 ;C475 C399 ;	2.36345	P37198	3
KAAAPAPEEEMDEC*EQALAAEPK	C316 C266 ;C316 C266 C316 C266 ;C316 C266 ;	2.36296552 6	P26641	3
NAVWALSNLNLC*R	C240 C238 C238 ;C240 C238 C145 ;C240 C238 ;	2.362614	P52294	3
EMSC*IAEDVIIVTSSLTK	C97 C97 C97 ;C97 C97 ;C97 ;	2.35960666 7	Q9Y678	3
GISC*MNTTLESSEPFK	C242 ;X ;X ;	2.35786166 7	Q15181	2
SC*SGVEFSTSGHAYTDTGK	C36 ;C36 ;X ;	2.357415	Q9Y277	2
IFSGGDQSFSHYSSPQNCGPPDDFRC*PNPTK	C392 C392 C392 C282 ;C392 C392 C392 C282 ;X ;	2.356055	Q5GLZ8	2
DTPTESSC*AVAAIGTLEGSPPGISTSFFR	C872 C680 C851 ;C872 C680 C851 ;X ;	2.35394	O94851	2
GLYGIKDDVFLSVPC*ILGQNGISDLVK	C293 C322 C293 C322 C293 C322 ;C293 C322 C293 C322 ;C293 C322 C293 C322 C293 C322 ;	2.35362617 6	P00338	3
SSGQSAQLLSHEPGDPPC*LR	C522 C399 C522 ;X ;X ;	2.352945	H3BVG0	2
C*ATPVIIDEILPSKK	C145 C145 C145 C145 ;C145 C145 ;C145 C145 ;	2.350515	Q9ULW0	3
VVYGGGAAEISCALAVSQEADKC*PTLEQYAMR	C440 C402 C419 ;X ;X ;	2.34658	P48643	2
MALDALLQEIALSEPQLC*EVLQVAGPDR	C38 C38 C38 C38 ;C38 C38 C38 ;C38 C38 ;	2.34341	Q7Z2W4	3
ALNALC*DGLIDELNQALK	C62 ;X ;X ;	2.343107	P30084	3
NWYVQPSC*ATSGDGLYEGTLWLTSNYKS	C155 C155 C155 ;C155 ;C155 C155 ;	2.34307935 5	P62330	3
SSPGLSDTIFC*R	C27 ;C27 ;C27 ;	2.341114	Q9H8M7	3

SGTIC*SSELPGAFEAGFHLNEHLYNMIIR	C190 C190 ;C190 C160 C190 ;C190 C190 ;	2.34070096 8	A0A0C4DG Q5	3
ADIIVSELLGSFADNELSPEC*LDGAQHFLKDDGVSIPGE YTSFLAPISSSK	C449 C449 ;C449 ;X ;	2.338147	O14744	3
NHIENQDEC*VLNVISHAR	C153 C153 ;C153 C153 ;C153 C153 ;	2.33778833 3	S4R369	3
MNTLLANGEVPLFEGDEYATLMTQC*K	C3033 C3033 ;C3033 ;C3033 ;	2.33682857 1	Q14204	3
FQYEC*GNYSGAAEYLYFFR	C141 ;C141 C141 ;C141 C141 ;	2.33629666 7	P60228	3
C*GGIVGIQTK	X ;C180 ;C180 ;	2.33268		2
C*HWSDFMTGR	C82 ;C82 ;C82 ;	2.3323775	P46060	3
LDNWLNELETYC*TR	C110 C223 C86 C139 ;X ;C110 C86 C139 ;	2.331715	Q9NP72	3
GFVTMTLESLEEIQDVSC*AWK	C603 C603 ;X ;C603 C603 ;	2.329957	Q9BQ39	3
TAVLDC*TAPGLHIAVR	C468 ;X ;X ;	2.32967666 7	Q5D0E6	3
SNLQEIFLPAFPC*HER	C337 ;C337 ;C337 ;	2.328655	Q9NPG8	3
ELELMFGC*QVEGDAAETPPRPR	C277 ; C277 ;X ;M248 C251 M274	2.324082	Q02750	3
LILADALC*YAHTFNPK	C345 C376 ;C345 C376 ;C345 C376 ;	2.32300166 7	P28838	3
VLDALFPCVQGGTTAIPGAFGC*GK	C254 C254 ;C254 ;C254 C221 C254 C221 ;	2.32289333 3	P38606	3
KGVSASAVPFTPSSPLLSC*SQEGSR	C576 C585 C576 C39 ;X ;C576 C585 C576 C39 ;	2.32261666 7	Q9Y2X7	2
DC*NGDTPNLSFYR	C87 C87 C35 ;C87 C87 C35 ;C87 C87 C35 ;	2.32256666 7	Q9NZZ2	3
NEC*DPALALLSDYVLHNSNTMR	C459 ;C459 ;C459 ;	2.32175562 5	Q13200	3
ISDTGSAGLMLVEFFAPWC*GHCK	C57 ;C57 ;C57 ;	2.31895666 7	P30101	3
LSIQC*YLSALDR	C224 C224 ;C224 ;C224 ;	2.31877857 1	Q01581	3
RPLNPLASGQGTSEENTFYSWLEGLC*VEK	C241 C241 ;C241 ;C241 C241 ;	2.317436	Q96HE7	3
IKSGEEDFESLASQFSDC*SSAK	C113 ;C113 ;C113 ;	2.31708941 2	Q13526	3
ITTFPPVPVTC*DAVR	X ;C135 C135 C108 C108 C108 ;C135 C135 C108 C108 C108 ;	2.31682		2
FIQENIFGIC*PHMTEDNKDLIQGK	C244 ;X ;X ;	2.3168	P30101	2
YDILYHTDFESGYSEIFLMPLWTSYTVSKQAEVSSVPDHL TSC*VR	X ;C652 C677 C287 C704 C673 ;C652 C677 C287 C704 C673 ;	2.314715		2
IWDVSVNSVSTFPMGSTVLDQQLGC*LWQK	C285 ;C285 C285 ;C285 ;	2.31457	O75083	3
LWLDNTENDLNQGDHGFSPHLWAC*R	C42 C42 ;C42 C42 C42 ;C42 C42 C42 ;	2.3145	Q13418	3
FDPTQFQDC*IIQGLTETGTDLEAVAK	C39 C67 C35 C39 C67 C35 ;C39 C67 C35 C39 C67 C35 C39 C67 C35 ;C39 C67 C35 C39 C67 C35 C39 C67 C35 ;	2.31281970 6	Q7L1Q6	3
AQLVEIVGC*HFR	C184 ;C184 ;C184 ;	2.31227777 8	O75446	3
ILVNACC*PGPVK	C227 ;C227 ;C227 ;	2.31165	O75828	3
IVPFYNGGNC*VTDEFEEGIQDIILR	C159 C118 ;X ;X ;	2.310938	Q9UL15	3
AFTKPEEAC*SFILSADFPALVVK	C134 ;C134 ;C134 ;	2.31060375	P22102	3

IEEFLEEVLC*PPK	C100 ;X ;X ;	2.30868619	Q9Y696	3
C*ALSSPSLAFTPIIK	C238 C120 C255 ;C238 C120 C255 ;X ;	2.30623083 3	Q8NFH5	3
VDLELFSPDMEC*ADVPLLTSSK	C31 C31 ;C31 ;C31 C31 ;	2.30558666 7	P14921	3
GDLNDCFIPC*TPK	C147 C203 ;C147 C203 ;X ;	2.30472	P11586	2
LVLANNP*PALR	C52 C52 ;C52 C52 C52 C52 ;C52 C52 ;	2.303655	P62888	3
IC*PVEFNPNFVAR	C33 C33 C33 C33 ;C33 C33 ;C33 C33 ;	2.30088666 7	Q9UI30	3
FSPLCQWLYLEAADIVESLGKPEC*EEFLPR	C433 ;X ;C433 C433 ;	2.300795	A0AVT1	3
NAIDDGC*VVPGAGAVEVAMAEALIK	C406 ;C361 C406 ;C361 C406 ;	2.29978933 3	P40227	3
HLQTVQNTIYTC*ATPLQEALAQAFWIDIK	C313 C149 C279 ;X ;X ;	2.2993825	Q6YP21	3
C*VYTYIQEFYR	C415 C948 C288 C892 C415 C948 C288 C892 C415 C948 C288 C892 ;C415 C948 C288 C892 C415 C948 C288 C892 ;C415 C948 C288 C892 ;	2.29892333 3	B5MCI0	3
KAGSC*QQGSGPAASAATASPQLSSEIENLMSQGSYQ DIQK	C840 ;C796 C840 ;X ;	2.29753	P22681	2
SHIMPAEFSSC*PLNSDEEVNK	C226 C207 C207 C115 C115 ;X ;X ;	2.295147	Q9H0W9	3
GVLFGVPGAFTPGC*SK	C100 C100 C48 C100 C100 C48 ;C100 C100 C48 ;C100 C100 C48 ;	2.29450333 3	P30044	3
AQPEPC*PGPTGEVPLKPLSSGGLVR	X ;C160 C76 ;C160 ;	2.29387		2
EC*PSDEC*GAGVFMASHFDR	C121 C126 C121 C126 ;C121 C126 ;	2.29378428 6	P62979	3
GFCHLCDGQEACC*VGLEAGINPTDHLITAYR	C101 C139 ;X ;X ;	2.29107666 7	P08559	2
EHILPSLAHLLPALDC*LEGSTPGL	C243 ;X ;X ;	2.288315	Q9BSH5	2
TLLLTPVGAHLTNESVC*EIMQSCFR	C158 C158 C158 ;C158 C158 C158 ;C158 C158 ;	2.2823275	Q92538	3
TC*AYTNHTVLPEALER	X ;C373 C373 ;X ;	2.277755		2
STGVVNIPAAEC*LDEYEDDEAGQKER	C119 C173 ;C119 C173 ;C119 C173 ;	2.277711	H0YI16	3
VFFVESVC*DDPDVIAANILEVK	C158 C158 C158 C158 ;X ;X ;	2.27755285 7	O60825	2
SQQDTFLPHVEC*GTITLIGATTENPSFQVNAALLSR	C127 C347 ;C127 C347 ;C127 C347 ;	2.277195	Q96S55	3
LMEQLSSVGFC*TEVEEDLIDAVTGLSGSGPAYAFTALD ALADGGVK	C159 C186 C159 ;C159 C186 C129 C159 ;C159 C186 C159 ;	2.27705916 7	P32322	3
ELSFSGIPC*EGGLR	C36 ;C36 ;C36 ;	2.27609333 3	Q9NVG8	3
C*AVSDVEMQEYHDEFEEVFTEEMEEK	C67 C67 C67 C67 C67 C67 ;C67 C67 C67 C67 C67 C67 ;C67 C67 C67 ;	2.27586529 4	Q01081	3
RPTEIC*ADPQFIIGATR	C82 C82 ;X ;X ;	2.273865	P17655	3
SAC*SLESNLEGLAGVLEADLPNYK	C44 ;C44 C44 ;C44 ;	2.27239666 7	Q09161	3
FTTEIHPS*VTR	C612 C612 ;C612 ;X ;	2.272243	P29317	3
EGTDSSQGIPQLVSNISAC*QVIAEAVR	C29 C29 C29 C29 ;C29 C29 C29 C29 ;C29 C29 C29 C29 ;	2.27205714 3	Q99832	3
DSGLFC*VPLTALLEQDQR	C323 C278 ;C323 C278 ;X ;	2.27049	Q8N392	2

EGVLKEEILLAC*EGGTGTCVR	C149 C124 ;X ;X ;	2.27043333 3	Q9GZN8	3
C*GVPFTDLLDAAK	C230 C149 C201 ;X ;C112 C155 C111 C230 C149 C201 ;	2.26940833 3	Q01433	3
AVGDGILC*NTYIDSYK	C264 C275 ;C264 C275 ;C264 C275 ;	2.26906	Q53EL6	3
DAWASPC*HSYPLVATR	C374 ;C374 ;X ;	2.26667	Q13425	3
AIVLFTSDAC*GLSDVAHVESLQEK	C193 C173 C326 C193 C173 C326 C193 C173 C326 C193 C173 C326 ;C193 C173 C326 C193 C173 C326 C193 C173 C326 ;C193 C173 C326 C193 C173 C326 C193 C173 C326 C193 C173 C326 ;	2.26612277 8	P24468	3
VRPSTGNSASTPQSQC*LPSEIEVK	C131 C131 ;C131 C131 C131 C131 ;C131 C131 C131 C131 ;	2.26451333 3	Q9UJX3	3
ADELLC*WEDSAGHWLYE	C74 C158 C74 C158 ;X ;C158 ;	2.26444375	H3BPR2	2
TSC*GSPNYAAPEVISGR	C185 C200 C174 C174 ;C185 C200 ;X ;	2.2638	Q13131	2
ELEVLLMC*NK	C91 ;M90 C109 ; C91 M108 C91 M90 C109 ;M90 C109 M90	2.26115652 2	D3YTB1	3
FFACAPNYSYAALCEC*LR	C513 ;C484 C513 C484 C513 ;C484 C513 C484 C513 ;	2.26078777 8	Q96RS6	3
IVGIGYNGMPNGC*SDDVLPWR	C71 C60 ;X ;X ;	2.26038181 8	P32321	3
SPQELDQGTGAALC*FFNPLFPGDLGPTKR	X ;C118 C223 C223 ;C223 ;	2.25882		2
KPNVGC*QQDSEELLK	C347 ;C347 ;X ;	2.25859	A0AVT1	2
LVIYGGMSGC*R	C227 ;M224 C227 ; C227 M224	2.256295	P51610	3
TDC*SPIQFESAWALTNIASGTSEQTK	C133 C133 ;X ;C133 ;	2.254955	P52292	2
DTGTVHLNELGNTQNFMLLC*PR	C126 C126 C126 C126 ;C126 C126 C126 ;C126 ;	2.25436615 4	Q2NL82	3
LFNTAVC*ESK	C721 ;C721 ;X ;	2.2523875	Q9BXJ9	2
SGEWEAVEVLTEPDTNQNLC*EALQR	C272 C377 C272 C377 ;X ;C272 C377 ;	2.251885	Q3B7J2	2
MLPTYVC*ATPDGTEK	C517 ;X ;X ;	2.25127923 1	P52789	3
HGLEVIYMIPEIDEC*VQQLK	X ;X ;C529 ;	2.25082666 7		2
YQVTWYTSWSPC*PDCAGEVAEFLAR	C97 C97 ;C97 C97 ;C97 C97 ;	2.25039111 1	Q9NRW3	3
AITIAGVPQSVTEC*VK	C158 ;X ;X ;	2.247914	Q15365	2
AVAILC*NHQR	C630 ;C630 ;C630 ;	2.247772	P11387	3
AEGSDVANAVLDGADC*IMLSGETAK	C358 C358 C358 C358 C358 C358 C358 C358 ;C358 ;C358 C358 ;	2.24690842 1	P14618	3
YGIC*MEDLIHEIYTVGK	C186 C186 ;C186 C186 ;C186 C146 C186 C146 ;	2.24663894 7	P18124	3
TIC*SHVQNMIC	C74 C74 C74 C71 ;C74 C74 C74 C71 ;C74 C74 C74 C71 ;	2.245878	D6RAN4	3
GWNEC*EQTVALLSLK	C20 C20 C20 C20 C20 C20 C20 C20	2.24505	Q9UPU9	3

	;C20 C20 C20 C20 C20 C20 C20 C20 C20 ;C20 C20 C20 C20 C20 C20 ;			
DGNASGTTLEALDC*ILPPTTRPTDK	C234 C234 C213 C234 ;X ;X ;	2.244665	Q5VTE0	2
LC*WFLDEAAAR	C237 C237 ;X ;X ;	2.24455	O95336	3
TFSFC*GTIEYMAPEIIR	C198 C198 C198 C182 ;X ;C198 ;	2.24038	E9PJN1	2
ISFC*LDIHNMSVK	C483 ;C345 C483 ;C483 ;	2.239825	O43242	3
ADHQPLTEASYVNLPTIALC*NTDSPLR	C148 C153 C148 ;C148 C153 C148 C148 C153 C148 ;C148 C153 C148 ;	2.23942928 6	C9J9K3	3
YADLTEDQLPSC*ESLK	C153 ;C153 ;X ;	2.23887214 3	P18669	3
ATLEC*HPLTMTDPIEEHR	C191 C245 ;X ;X ;	2.23619666 7	Q99661	3
GDFYVIEYAAC*DATYNEIVTLER	C109 ;C66 C109 C66 C109 ;C109 C109 C109 ;	2.23598	P51116	3
C*PLIFLPPVSGTADVFFR	X ;C44 C44 C44 C44 C44 C44 C44 ;C44 C44 ;	2.23287		2
SGANVLICGPNGC*GK	C477 ;X ;C477 ;	2.231012	P28288	3
YHEVHYILLDPSC*SGSGMPSR	C308 C270 C308 C308 ;C308 C270 C308 C308 ;C308 C308 C308 ;	2.2282	Q96P11	3
EADGSDSLEGFVLC*HSIAGGTGSLGSYLLER	C138 C138 ;C138 C138 ;X ;	2.22548666 7	P23258	3
SGVIVLPC*GAGK	C342 ;C342 ;C342 ;	2.22535	P19447	3
VGIGPGSVC*TTR	C186 C204 C204 ;C187 C186 C204 C204 C186 C187 C186 C204 C204 C186 ;C186 C204 C204 C229 ;	2.2247725	Q9P2T1	3
GLSNLFLSC*PIPK	C326 C36 C312 C125 ;X ;X ;	2.22430333 3	Q9Y570	3
TC*FETFPDK	C326 ;C326 ;X ;	2.22389176 5	P11216	3
GFEVIYMSEPIDEYC*VQQLK	C429 ;C429 ;X ;	2.22263	Q58FF6	2
YQIDPDAC*FSAK	C232 ;C232 ;X ;	2.21922	P21796	2
VVSGMVNC*NDDQGVLLGR	C230 ; C230 ;M227	2.21798076 9	P21980	3
IHQC*ISINMLADKLNMTPEEAER	C350 ;C350 ;C350 ;	2.21796857 1	P60228	3
DIDFLKEEEHDC*FLEEIMTK	C173 C173 C173 ;C173 C173 C173 ;C173 C173 C173 C173 ;	2.21785368 4	P12268	3
LGGSLIVAFEGC*PV	C146 C163 C146 C163 C146 C163 C146 C163 C146 C163 ;X ;C146 C163 C146 C163 C146 C163 ;	2.21472529 4	P60981	3
GFEVVMTEPIDEYC*VQQLK	C521 C521 ;X ;C521 ;	2.21441043 5	P08238	3
VNIEGGAIALGHPLGASGC*R	C360 ;X ;C360 ;	2.2124	Q9BWD1	2
LWHQLTLQVLDVQDPC*FAQGDGLIK	C49 C49 ;C49 C49 ;C49 C49 ;	2.212324	AOA087WU L9	3
GEELSC*EER	C38 ;C38 ;X ;	2.21019444 4	P31947	2

GEAYNLFEHNC*NTFSNEVAQFLTGR	C108 C108 C108 ;C108 ;C108 C108 ;	2.20986882 4	Q6ICB0	3
GIFPVLC*KDPVQEAWAEDVDLR	C474 C474 C474 C474 C474 C474 C474 C474 ;C474 C474 ;C474 C474 C474 C474 ;	2.20927416 7	P14618	3
NADMSEEMQQDSVEC*ATQALEK	C24 ;X ;C24 ;	2.20828	P63167	3
VC*DEPHPLLK	C255 ;X ;C255 C221 ;	2.20814444 4	P35250	3
SVAFFPCISTGVFGYPC*EAAAEIVLATLR	C276 C276 ;C276 C276 ;C276 C276 ;	2.20614111 1	Q9BQ69	3
LYYFQYPC*YQEGLR	C130 ;C130 C130 ;C130 ;	2.205938	Q9NRW3	3
NLSQLPNFAFVPLAYFLLSQQDLPEC*EQSSAR	C83 ;C203 C300 C438 C83 C242 ;X ;	2.20582	H3BRP4	2
SC*DDFSHMGTLPHSK	C64 ;X ;C64 ;	2.20518	O75815	2
EVC*PVLDQFLCHVAK	C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 ;C22 C22 C22 C22 C22 ;C22 C22 C22 C22 C22 C22 C22 C22 C22 C22 ;	2.204185	Q9NY27	3
LLTFGC*NK	C623 ;C623 ;X ;	2.203615	Q8TD19	2
YRPDMPC*FLLSNQNAVK	C129 C48 ;X ;C129 C48 ;	2.20129375	Q15398	3
SC*LSPKPPQGGQEQGQDEVVLEGPETPR	C232 ;X ;X ;	2.19846375	Q8NCF5	3
SNC*KPSTFAYPAPLEVPK	X ;X ;C806 ;	2.19738		2
AINC*ATSGVVGLVNCLR	C1448 C1448 C1448 ;C1448 C1448 ;C1448 ;	2.19724518 5	P49327	3
DADEESIEDVDDEEFEEELIDTFEDDNC*FSSGKDDMDFA GNVK	C856 C856 ;X ;X ;	2.19698	Q03701	2
LC*SGPGIVGNLVDPSAR	C245 ;C245 C245 ;C245 C245 ;	2.19424615 4	Q9Y5P6	3
GMYGIENEVFLSLPC*ILNAR	C294 ;M281 C294 ; C294 M281	2.1929055	P07195	3
LAAC*FLDSMATLGLAAYGYGIR	X ;C143 C143 C143 C143 ;C143 C143 C143 C143 C143 C143 C143 C143 ;	2.192855		2
APVPSTC*SSTFPEELSPSHQAK	C160 C160 C160 C160 ;C160 C160 C160 C160 C160 C160 C160 C160 C160 C160 ;C160 C160 C160 C160 ;	2.191956	Q14980	3
GVAQTPGSVEEDALLC*GPVSK	C79 C79 C79 ;C79 C79 C79 ;C79 C79 ;	2.19110857 1	Q5QPE7	3
MTGESEC*LNPSTQSR	C1181 C1212 ;C1181 C1212 ;X ;	2.19069166 7	Q9H2G2	2
VAVSADPNVNVVVTGLTLVC*SSAPGPLELDTGDLESF KK	C79 C79 C79 C79 C79 C79 ;C79 C79 C79 C79 C79 ;C79 C79 C79 C79 C79 C79 C79 C79 C79 C79 C79 ;	2.18804933 3	J3QQX2	3
METYC*SSGSTDTSPVIDAVTHALTATTPYTR	C201 M284 C288 ;M284 C288 ;M197 C288 ;	2.18581869 6	Q02338	3
IYHPNINSNGSIC*LDILR	C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C85 C47 ;C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C56 C86	2.18271769 2	D6RFM0	3

	C56 C85 C85 C85 C56 C85 C87 C79 ;C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 C56 C86 C56 C85 C85 C85 C56 C85 C87 C79 ;			
AAC*EQLHQQQQQQEETAATLLLQGEEEGEED	C292 ;X ;C292 ;	2.1826225	Q00577	3
LTPFIQENLNLALNSASAIGC*HVVNIGAEDLR	X ;C209 ;X ;	2.18238		2
SLEPSPSPGPQEEDGEVALVLLGRPSGAVGPEDVALC* SSR	C1637 C1637 C1612 C1531 C1531 C1612 ;C1637 C1637 C1612 C1531 C1531 C1612 ;C1637 C632 C1637 C1612 C1531 C1531 C1612 ;	2.18025	Q14160	3
LLC*GLLAER	C81 ;C81 ;X ;	2.17817	P14174	2
VIEQLGTPC*PEFMK	C245 C245 C245 C245 ;X ;C245 C245 C245 C245 C283 C283 C245 C196 ;	2.17796142 9	P45983	3
KC*DLISIPK	C473 C426 C420 ;X ;C473 C426 C420 ;	2.177582	Q9ULV4	3
AAAFVTSPPLSPDPTPDFLNSLLSC*GDLQVTGSAHCTF NTAQK	C287 C323 ;X ;X ;	2.1754	Q16555	2
ISPVDVNSRPSSC*LTNFLNGR	C349 ;C53 C248 C349 ;C53 C248 C349 ;	2.17490833 3	Q9NVM9	3
SFNIVDIKPANMEELTEVITAAEFHPNSC*NTFVYSSSK	C239 C249 C239 C249 ;C239 C249 C239 C249 ;C239 C249 ;	2.17449727 3	P63151	3
VC*HLGDQLEGVNTPR	C111 C111 ;C111 C111 ;C111 C111 ;	2.17157714 3	AOA0A0MS I8	3
IIQFQATPC*PK	C224 ;C298 C299 C300 C224 C313 C278 C299 C238 ;C298 C300 C224 C313 C278 C299 C238 C298 C300 C224 C313 C278 C299 C238 ;	2.17128	Q06330	3
LGGQDSFESIESYDSC*DR	C261 ;X ;X ;	2.17052	P14921	2
DMEPEMVCIDSC*GR	C184 ;X ;C184 ;	2.169216	Q9NQ75	2
MAAISESNINLCGSHC*GVSIGEDGPSQMALEDLAMFR	C425 C417 C425 C417 ;C425 C417 ;X ;	2.16870722 2	P29401	3
EREDESSMFDEYFQEC*QDE	C281 C291 C320 ;C281 C291 C320 ;X ;	2.166995	Q9UHW5	2
SIQC*LTVHK	C325 ;X ;X ;	2.164115	O75083	2
ALSAVHSPTFCQLAC*GQDGQLK	X ;C255 C272 C255 C255 ;C255 C272 C255 C255 ;	2.162225		2
CEYPAAC*NALETLIHR	C610 C612 ;X ;C610 C612 ;	2.16211	P54886	3
VIEINPYLLGTMSGC*AADCQYWER	C116 C120 C120 C116 C120 C120 ;C116 C120 C120 ;C116 C120 C120 ;	2.16087636 4	P28062	3
IIC*SAGLSLLAEER	C107 C195 ;C107 C195 ;C107 C195 ;	2.16047153 8	S4R338	3
KTATAVAHC*K	C25 C25 ;X ;X ;	2.16029833 3	P62249	2
LSNVAPPC*ILR	C182 C182 C167 ;C182 C182 C167 ;C182 C182 C167 ;	2.159974	C9JB30	3
LNIISNLDC*VNEVIGIR	C390 ;X ;X ;	2.15995266 7	P30153	3

FPEELTQTFMSC*NLITGMFQR	C389 C339 C389 C339 ;C389 C339 C389 C339 C389 C339 ;C389 C339 ;	2.15939466 7	P26641	3
SC*SVTDAVAEQGHLPPPSVAYVHTTGPLPSGWEER	C220 C341 C333 ;C220 C341 C333 ;X ;	2.1591575 2.15859888 9	Q96PU5	3
FGVIC*LEDLIEIAFP GK	C184 ;X ;C184 ;		Q6DKI1	3
SPAAEC*LSEKETEELMAWMR	C573 C520 ;C573 C520 ;C573 C364 C520 ;	2.15768	Q12931	3
AGSNMLLIGVHGPTTPC*EEVSMK	C2491	2.15676714 3	O75369	3
LFDDPDLGGAIPLGDSLLPAAC*ESGGPTPSLSHR	C287 ;C287 C106 C81 C80 C40 ;X ;	2.15636428 6	Q53T59	2
LMWLFGC*PLLLDDVAR	C66 C66 ;C66 ;C66 C66 ;	2.15635625	O15067	3
LKSYC*NDQSTGDIK	C106 ;X ;X ;	2.155835	P00492	2
LIDFLEC*GK	X ;C234 C234 C234 C234 ;C234 C234 ;	2.15495		2
VGVGTC*GIADKPMYQDTSK	C214 ;X ;X ;	2.150382	O75940	2
DFGYGVEEEEEEAAAAGGGVAGAGGGC*GPGGADSS KPR	C52 C52 ;C52 C52 ;X ;	2.149055	Q9HB90	3
HLFC*PDLR	C22 ;C22 C22 C22 ;C22 C22 ;	2.1458475	Q9NUI1	3
SSTETC*YSAIPK	C2436 C2477 ;X ;X ;	2.145805	O75369	2
INEIVYFLPFC*HSELIQLVNK	C577 C371 C542 C513 C572 C527 ;C577 C371 C542 C513 C572 C527 ;C577 C371 C542 C513 C572 C527 ;	2.14445	H0YGM0	3
VNLQMVDSPLC*R	C462 C493 C533 ;X ;C462 C493 C533 ;	2.14321	Q9Y285	3
GIFGFTSDC*IGK	C233 C274 ;X ;X ;	2.14084333 3	P23381	2
LDTNSDGQLDFSEFLNLIGGLAMAC*HDSFLK	C91 C91 ;C91 C91 ;C91 ;	2.14076096 2	P31949	3
DSGYGDIWC*PER	C176 C213 C228 C228 C137 C228 C228 C176 ;C176 C213 C228 C228 C137 C228 C228 C176 ;C213 C228 C137 C228 C176 ;	2.14072428 6	E9PMP7	3
SELEC*VTNITLANVIR	C27 C27 ;X ;X ;	2.13831	Q9Y6W5	3
LVC*GMVSYLNDLPSQR	C449 C449 C449 C411 C449 C411 ;X ;C449 ;	2.13818	Q15067	3
FSIYNLNEALNQGETVDLDALMADLC*SIEQELSSIGSGN SK	C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 ;X ;C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 C94 ;	2.13808555 6	Q70E73	3
IHFISPNIYCC*GAGTAADTMTTQLISSNLELHSLSTGR	C87 ;X ;X ;	2.138085	Q99436	3
VDSPSHGLVTSSL*IPSPAR	C699 C624 ;C699 C624 ;X ;	2.137288	Q9UER7	2
IDILINCAAGNFLC*PAGALSFAFK	C120 ;C129 C120 C108 ;X ;	2.13624714 3	Q9NUI1	3
PHLENVVLC*R	C10 ;X ;C10 ;	2.13538	O43913	2
VPAFEGDDGFC*VFESNAIAYYSNEELR	C118 C68 C118 C68 C118 C68 ;C118 C68 C118 C68 C118 C68 C118 C68 ;C118 C68 C118 C68 C118 C68 ;	2.13494652 2	P26641	3

SLC*NLEESITSAGR	C63 C63 ;C63 C63 ;X ;	2.13144478 3	Q52LJ0	3
FNAHG DANTIVC*NSK	C61 ;C61 ;X ;	2.13143428 6	P09382	2
NMSVHLSPC*FR	C116 ;C116 ;C116 ;	2.13120333 3	P62280	3
IQFNDLQSLLC*ATLQNVLR	C440 C585 C440 C585 ;C440 C585 C440 C585 ;C440 C585 C440 C585 ;	2.130505	Q14974	3
GPDPGEDLADLEVVP GSPGDC*LPEEADGTDTHLGLPA GASQPALTSSR	C266 C266 C266 ;X ;C266 C266 C266 ;	2.127476	O60343	3
VADSSPFALELLISDDCFVLDNGLC*GK	C275 C290 C275 C290 C275 C290 C275 C290 ;C275 C290 C275 C290 C275 C290 C275 C290 ;C275 C290 C275 C290 C275 C290 C275 C290 ;	2.12624538 5	P40121	3
LVVPASQC*GSLIGK	C109 C109 C109 C109 ;C109 C109 ;C109 C109 ;	2.125494	Q15366	3
VFIMDNC*EELIPEYLN FIR	C374 C496 C374 C496 ;C374 C496 ;C374 ;	2.12468818 2	P07900	3
KNDFYSYEPPSENPPPETGESVC*LQLK	C125 C125 C125 C92 C92 C125 C125 C92 ;C125 C125 C125 C92 C92 C125 C125 C92 ;C125 C92 ;	2.12089166 7	A0A087WY J3	3
EVFSSC*SSEVVLSGDDEEYQR	C108 ;X ;C108 ;	2.119276	Q09666	3
AGVC*AALEAWPALQIAVENGF GG VHSQEK	C17 ;C17 ;C17 ;	2.11751666 7	Q969E8	3
TVDSQGPTPVC*TPTFLER	C237 ;C237 ;X ;	2.11740333 3	Q9BYG3	2
ESGC*SWHGGPDGLYEYLRPSGTPAR	C421 C472 ;X ;C421 C472 ;	2.116655	Q8IZ83	2
QLFALSC*TAE EQVLPDDL SGVIR	C96 C112 C96 C75 C112 C60 C96 C112 C96 C75 C112 C60 ;C96 C112 C96 C75 C112 C60 ;X ;	2.11654777 8	P04899	3
GPVGN EPLVTDVVLQSFPLPSC*EILDINDEQTLPR	C483 C483 C483 ;C483 C483 C483 C300 ;X ;	2.11224	Q02241	2
FTLDC*THPVEDGIMDAANFEQFLQER	C25 ;X ;X ;	2.11197888 9	P35268	3
AAENNVFHLVATVC*SQEEP VQPLLR	C62 C62 C28 ;C62 C62 C28 ;C62 C62 C28 ;	2.110395	A0A087WY 19	3
AWNAYPYC*R	C96 C94 C94 ;X ;X ;	2.109835	P48739	2
VSDTVVEPYNATLSVHQLVENTDETYC*IDNEALYDIC*FR	C139 C201 C211 ; C183 C193 C131 C193 C183 C141 C201 C211 C131 C211 C201 C139 C129 C193 C201 C211 C129 C141 C131 C211 ;C183	2.10969193 5	Q5JP53	3
VDDEILGFISEATPLGGIQAASTESC*NQQLDLALCR	C561 C561 C561 C561 C561 ;C561 C561 C561 C561 ;C561 C561 ;	2.10831315 8	P42166	3
SLLETNEIPSLILWGPPGC*GK	C52 C272 ;C52 C272 C52 C272 ;C52 C272 ;	2.107354	Q96S55	3
TYPGVMHSSC*PQEMAAVK	C213 ;X ;X ;	2.1071375	O95372	3

C*MALSTAVLVGEAK	C317 C34 C304 ;C317 C304 ;X ;	2.10344	Q02252	3
FLYEC*PWR	C622 C622 ;X ;X ;	2.102835	P11498	2
YVLC*TAPR	X ;C405 C370 C360 ;C405 C370 C360 ;	2.10283		2
LVSSPC*CIVTSTYGWTANMER	C589 ;X ;X ;	2.10212090 9	P08238	3
AGIDGESIGNC*PFSQR	C191 C32 C32 ;C191 C32 C32 ;X ;	2.1007025	Q9NZA1	2
FSLDEEAILPDQIVC*SPVPMLR	C736 C660 ;X ;C736 C660 ;	2.09911	Q9H0D6	2
VPTANVSVVLDLTC*R	C247 ;C247 ;C247 ;	2.09865454 5	P04406	3
ITSAVWGPLGEC*IIAGHESGELNQYSAK	C160 ;C160 ;C160 ;	2.097718	Q13347	3
AQDIEAGDGTTSVVIAGSLLDSC*TK	C120 C90 C120 C90 C120 C90 C120 C90 ;C120 C90 C120 C90 C120 C90 ;C120 C90 C120 C90 C120 C90 ;	2.097665	P50991	3
VQPQWSPAGTQPC*R	C27 C40 C27 C40 C110 C110 ;C110 C27 C40 C27 ;C27 C40 C110 ;	2.09649454 5	P49589	3
LAPILC*DGTATFVDLVPGFR	C568 C568 ;C568 C568 C568 C568 ;C568 C568 ;	2.096275	O43264	3
NNTQVLINC*R	C46 C46 C36 ;C46 C46 C36 ;X ;	2.09499666 7	K7ERG4	2
RGSDelfSTC*VTNGPFIMSSNSASAANGNSK	C23 ;X ;X ;	2.091259	P26599	2
LWQADC*SSRPLLAGYEDGSVVLWDVSEQK	C175 ;X ;C175 ;	2.09106625	Q9BYB4	3
DIPDGATVLVGGFGLC*GIPENLIDALLK	C67 C67 ;X ;C67 ;	2.09005285 7	P55809	3
MC*LFAGFQR	C594 M574 C575 ;X ;X ;	2.08943666 7	Q00839	2
EKFTTPIETGGEGC*PAVALIQ	C122 C87 C73 ;X ;C122 C73 ;	2.08744666 7	Q9NP84	2
LC*PQLMPLMEEALR	C350 C350 ;C350 C350 C350 ;X ;	2.08543666 7	Q8TEX9	2
EEHLC*TQR	C233 C208 C143 C270 C212 C233 C217 ;C233 C208 C143 C270 C212 C233 C217 ;X ;	2.08505666 7	P06753	2
LELLVGSPASC*MELELYGVDDK	C51 ;X ;C51 ;	2.08489428 6	Q99426	3
MSGVTTCLR	C221 C239 C239 C239 C239 ;X ;X ;	2.08366455 7	Q5JP53	3
VTEAPC*YPGAPSTEASGQTGPQEPTSAR	C523 ;C523 ;C523 ;	2.08279333 3	P40222	3
GLC*AIAQAESLR	C97 C97 C97 ;C97 C97 C97 ;C97 C97 C97 ;	2.08257592 6	P23396	3
LTGEEVNSCVELLLEEAKDLLSDWLDSTLGC*DVTDNSIF SK	C204 C217 C287 ;X ;X ;	2.08215	P49589	2
AQLSGLQLQPC*LYK	C451 C135 ;C451 C135 ;C451 C135 ;	2.080922	O43159	3
ILYSQC*GDVMR	C33 C32 C32 C33 ;X ;X ;	2.08083666 7	G8JLA2	2
FSLC*SDNLEGISEGPSNR	C568 C568 C568 C568 C568 ;X ;C568 C568 C568 C568 C568 ;	2.08049333 3	Q14C86	2
LGPQSDPTEANLESADPELCLIR	C38 C38 ;C38 C38 ;C38 C38 ;	2.0804825	Q27J81	3
VKEFCENLSADC*R	C317 ;X ;X ;	2.0779225	P30153	2
GEPEEDLEYFEC*SNVPVSTINHAFFSSSEAGIEK	C110 C341 C126 C548 C98 C186 C110	2.07788666 7	AOA0C4DG D5	2

	C340 C536 C98 ;C341 C126 C548 C98 C186 C110 C340 C536 ;X ;			
FLSQIESDC*LALLQVR	C794 C794 C794 ;X ;C794 C766 C794 C766 ;	2.077765714	P52789	2
LGYAGNTEPQFIIPSC*IAIK	C34 ;X ;C34 ;	2.077725	P61158	2
TC*LSQLLDIMK	C244 ;X ;X ;	2.074926667	P51946	2
YLAEVAC*GDDR	C134 C134 ;C134 C134 ;C134 ;	2.074885833	P27348	3
LESLSAESHPPGNC*GEVNGVIAGVAPSVEAFDK	C32 ;C32 C32 C32 C32 C32 C32 C32 ;	2.074570588	P40123	3
DGTVLC*ELINALYPEGQAPVKK	C84 C63 C63 ;X ;X ;	2.07422125	P37802	3
YGDGGSTFQSTTGHC*VHMR	C290	2.07215	G8JLB6	2
TPGAATASASGAAEDGACGC*LPNPGTFEECHRK	C76 C76 ;C76 C76 ;C76 ;	2.07171	O96008	3
QGYDAAC*DIWSLGILLYTMLAGFTPFANGPDDTPEEILAR	C617	2.070888571	F2Z2J1	3
IEGC*IIGFDEYMNLVLDDAEIHSK	C46 ;C6 C46 C6 C46 C6 C46 ;C46 C46 ;	2.068857273	P62304	3
AEPQ*TSLAWSADGQTLFAGYTDNLVR	C286 C286 C286 C286 ;C286 C286 ;C286 C286 ;	2.068803571	P63244	3
FQSAAGALQEASEAYLVGLFEDTNLC*AIHAK	C111 C111 ;C111 C111 ;C111 C111 ;	2.065569565	P84243	3
NAIQLLASFLANPFSC*K	C439 ;C439 ;C439 ;	2.064198333	Q15021	3
NLEAELGPSPPAPDVLEFTHGGSGFVGGLC*QVAAAYQELFAAQGPAGAEK	C316 C192 ;C316 C192 ;X ;	2.064073333	Q9UID3	2
SSILLDVKPWDETDMAQLEAC*VR	C193 C174 C217 C583 C198 C217 C633 C583 C193 C174 C217 C583 C198 C217 C633 C583 ;C193 C92 C174 C217 C583 C198 C217 C57 C633 C583 ;C193 C92 C174 C217 C583 C198 C217 C57 C633 C583 ;	2.06389	P29692	3
CPEALFQPSFLGMESC*GIHETTFNSIMK	C272	2.063596716	P60709	3
TFVGTPC*WMAPEVMEQVR	C237 C218 C191 ;X ;C237 C218 C191 C191 ;	2.062240952	Q9UEW8	3
ALVDGPC*TQVR	C42 C42 ;C42 C42 ;C42 C42 ;	2.0562	E7EPB3	3
ASVGGGSC*FQK	C276 C276 ;C179 C276 C209 C179 C276 C209 ;C276 ;	2.055536667	O60701	3
TMDAGC*KPYMAPER	C232 C198 C227 ;X ;X ;	2.0554675	P46734	2
C*SPTLLLLNGQAACHMAQGR	C235 C212 C211 ;C235 C212 C211 ;X ;	2.05521	M0QXB4	2
C*PEALFQPSFLGMESCGIHETTFNSIMK	C257	2.054225846	P60709	3
VQSLPSVPLSC*AAYR	C412 ;C412 ;C412 ;	2.05233125	Q96AD5	3
SEEAPAGC*GAEGGGPGSGPFADLAPGAVHMR	C16 C16 ;C16 ;X ;	2.052148	Q9BUL9	2
DETVSDC*SPHIANIGR	C206 C235 C206 C194 C232 ;C206 C235 C206 C194 C232 ;X ;	2.050296667	P47756	3

LVVPATQC*GSLIGK	C109 C109 ;C109 C109 ;C109 ;	2.04997818 2	Q15365	3
SAGDGTDWEKEDQC*LMPEAWNVDQGVITK	C316 ;X ;C316 ;	2.048408	O43815	2
FSFCC*SPEPEAEAEAAAGPGPCER	C27 ;C27 ;C27 C27 C27 ;	2.04680714 3	Q13501	3
VAC*IGAWHPAR	C253 C253 ;C253 ;C253 ;	2.04674428 6	P39023	3
LVMEYLAICDEC*YITEMEMLLNEK	C525 ;C525 ;C525 C525 ;	2.046683	P41250	3
NCVVLSDIHIDIMDIQPATC*TDAEFR	C835 ;X ;X ;	2.044625	P53618	2
YC*SGTGWPSFSEAHGTSGSDESHTGILR	C105 C105 ;C105 ;X ;	2.04391888 9	Q9Y3D2	3
IC*SHSAPEQQAR	C19 ;X ;X ;	2.043908	O75683	2
GPTKEELC*K	C466 C453 ;X ;X ;	2.04372333 3	Q96TA1	2
EQVPSLGSNVAC*GLAYTDYHK	C568 ;C568 ;X ;	2.04171333 3	A1L0T0	2
IDRYTQQGFGNLPIC*MAK	C906	2.04138888 9	Q6UB35	3
EYTAC*ELMNIYK	C195 ;C96 C195 ;X ;	2.04112142 9	Q9NSD9	2
LDEC*EEAFQGTK	C103 C92 C31 C36 C92 ;C103 C92 C31 C36 C92 C92 ;X ;	2.04108214 3	P61289	2
VPPVLQVLHC*GDESMLDIGGER	C568 C586 ;X ;X ;	2.0396425	Q9UJV9	3
KGGPGVALSVGTLPLDSGAGSESGTATPSALITTMVA MEAIC*PEGIAR	C755 C748 C755 C748 C755 C748 ;C755 C748 C707 ;C755 C748 C707 ;	2.03922571 4	P08047	3
DVLKEEGVSFLINTFEGGGC*QPPSGILAQPTLLYLR	C1229 ;C1229 C1229 ;C1229 ;	2.03839875	P78527	3
ILGLQVQAEHC*SIQDAQAAMR	C210 C382 C210 ;C210 C382 C210 C210 C382 C210 ;C210 C382 C210 ;	2.034702	Q9GZR2	3
LDC*NIEIQNIAIELTKPQYLSMIDLLESVDYMVR	C322	2.03469	Q709C8	3
IENLELMSQHGC*NAWK	C132 ;X ;C132 ;	2.03404	O75934	3
VIIIQAC*R	C192 C264 C285 C134 C248 C192 ;C192 C264 C246 C285 C134 C248 C192 ;C192 C264 C285 C134 C248 C192 ;	2.033988	P29466	3
TLPTLQELHLSNDLLGDAGLQLLCEGLLDPQC*R	C142 ;X ;X ;	2.032835	P13489	2
IHEGC*EEPATHNALAK	C870 C874 C870 ;C870 C874 C870 ;X ;	2.032237	Q00610	2
VDLNSNGFIC*DYELHELK	C33 C33 ;C33 C33 C33 ;C33 ;	2.03203763 2	P13797	3
IIDLEEADEIEDIQQEITVLSQC*DSPYVTK	C89 C77 C77 C89 C77 C77 C89 C77 C77 ;C89 C77 C77 C89 C77 C77 C89 C77 C77 ;X ;	2.03117142 9	Q9Y6E0	3
MGVEAVIALLEATPDTPAC*VVSLNGNHAVR	X ;X ;C343 ;	2.03031333 3		2
NQISPFISQMC*NMLGLGDMNADQLASK	C188 C205 ;X ;X ;	2.0297	A0A087WX S7	2
IDPENAEFLTALC*ELR	C428 C476 ;X ;C428 C476 ;	2.02947625	Q13325	3
GMENLLEVQVPEDVEQQLQLDC*R	C368 C368 ;C368 C368 ;C368 ;	2.02858142 9	Q9BTY7	3
LTWHSC*PEDEAQ	X ;C177 ;X ;	2.02678666 7		2
INPSETYPAFC*TCFPSEPGLVGPSVR	C425 ;X ;X ;	2.024055	Q96GW9	2
SIQPYQIPITGPAAVTSQSPVPC*K	C285 C285 C333 ;C285 C285 C333 ;X ;	2.023895	A0A087WZ D4	2

GQVLSTINTNQMNNTAAVSPC*GR	C204 C240 C240 ;C204 C240 C240 ;C204 C240 C240 ;	2.02365	E9PF19	3
NTFIGTPYWMapeviac*DENPDATYDYR	C202 M157 C164 ;X ;X ; C202 M195	2.02363125	O95819	2
VTELQQQPLC*TSVNTIYDNAVQGLR	C277 ;C277 ;X ;	2.02348333 3	Q96AG4	2
AIVDC*GFEHPSEVQHECIPQAILGMDVLCQAK	C62 C62 C62 C62 C63 C63 C63 C63 C63 C63 C63 C63 ;C62 C62 C63 C63 C63 C63 ;C62 C63 C63 C63 ;	2.023114	O00148	3
LNEDMAC*SVAGITSDANVLTNELR	C74 C74 C74 C74 C43 C50 C74 C74 C74 C74 C43 C50 ;C74 C74 C74 C74 C74 ;C74 C74 C74 C74 C50 C74 ;	2.02178285 7	P25789	3
VELC*SFSGYK	C6 C6 C6 ;X ;X ;	2.02174875	C9JXB8	3
IRPLNSEGLNLLNC*EPPR	C1517 ;C1517 ;C1517 ;	2.021708	Q9Y5S2	3
LHIVQVVC*K	C191 ;C191 ;C191 ;	2.02162	O00299	3
LHIAC*FPVQLDLSGASVDESHGISPPLQGEISQTQEN SK	X ;C830 C745 C804 ;C830 C745 C804 ;	2.02121		2
AQHIVPC*TISQLLSATLVDEVFR	X ;C49 C57 C137 ;C49 C57 C137 ;	2.02112		2
TVPFC*STFAAFFTR	C394 C386 ;C394 C386 ;C394 C386 ;	2.02087	P29401	3
LQVIQC*IDVAEQALTALEMLSR	C541 C583 C535 C238 ;C541 C583 C535 C238 C541 C583 C535 C238 ;X ;	2.0207125	Q14669	2
NISFPATGC*QK	C12 ;X ;X ;	2.02065833 3	P62753	3
AENGLLMTPC*YTANFVAPEVLKR	C559 C564 C584 C575 C483 C559 C564 C584 C575 C483 C559 C564 C584 C575 C483 C579 C579 C579 ;C579 C559 C564 C584 C575 C483 ;C579 C559 C564 C584 C575 C483 ;	2.02051304 3	Q15418	3
EC*EGIVPVPLAEK	C105 ;C105 ;C105 ;	2.01963833 3	P82932	3
DIAQQLQATC*TSLGSSIQLPTNVK	C340 C329 C341 ;C340 C329 C199 C158 C341 ;X ;	2.019545	O60664	2
LPEEEAEC*YFHSPK	X ;X ;C156 C138 ;	2.019355		2
MC*DFGISGYLVDSVAK	C212 C178 C207 ;X ;X ;	2.01757818 2	P46734	3
GTPEQPQC*GFSNAVQILR	C67 C67 ;C67 ;C67 ;	2.01638214 3	Q86SX6	3
DGFYEALC*PDR	C105 C105 C92 C105 C105 C105 C116 ;C105 C105 C92 C105 C105 C105 C96 C105 C74 C105 C116 ;C105 C105 C92 C105 C105 C105 C96 C105 C74 C105 C116 ;	2.01571666 7	Q04206	3
RPYEDQGLGETTPLTIIC*QPMQPLR	C367 C367 ;C367 C367 ;C367 ;	2.01539	Q8TF42	3

IEPEPFENC*LLRPGSPAR	X ;C409 C298 ;X ;	2.01489666 7		2
C*SVPVDQASESLLK	C213 ;C213 ;X ;	2.01482	Q9NVN8	2
DSHEDGDYYEVDINGPEILAC*K	C437 C437 C437 C437 ;X ;C437 C437 ;	2.01389666 7	Q8TD16	2
QALPC*VAESPTVHVEVHQR	C14 ;C14 ;C14 ;	2.01348333 3	Q15645	3
NNAFPC*QVNIK	C675 C712 C675 C712 ;C675 C712 ;C675 C712 ;	2.01285	Q9NQW6	3
LLPVEPC*DLTEGFDPSVPPR	C34 ;C34 C34 ;C34 ;	2.01062	O14893	3
VEQNSEPC*AGSSSESDLQTVFK	C260 ;C260 C184 ;X ;	2.01062	Q8N806	2
LGTLPSPMLLSMNEMTLVSHAC*YPLFKDQATNNGCAMASR	C163 ;X ;C163 ;	2.00997333 3	Q9UJW2	2
GVLLYGPPGC*SK	C672 C672 C672 ;C672 C672 C672 ;C672 C672 C672 ;	2.00944333 3	Q8NB90	3
DYEFMWNPHLGYILTC*PSNLGTGLR	X ;C81 C283 C34 ;C81 C283 C34 ;	2.0081125		2
SEFYANEAC*K	C339 C381 C401 C339 ;C381 C401 C339 C219 C339 ;X ;	2.00682666 7	Q86TX2	2
QSELEPVVSLVDVLEEDELENEAC*AVLGGSDSEK	C35 ;X ;X ;	2.00648	Q8N806	2
LPACVVDC*GTGYTK	C12 ;C12 ;X ;	2.0059	P61158	2
GSDELFC*VTNGPFIMSSNSASAANGNDSKK	C23 ;X ;C23 ;	2.005505	P26599	2
GALLGPPGC*GK	X ;C353 C353 ;C353 ;	2.00478		2
IDTHNIIVNQLVFPDPEKPC*K	C272 C289 ;C272 C289 ;C272 C289 ;	2.00424833 3	A0A087WX S7	3
C*IADVVSFLITVMDK	C128 C111 C128 ;C128 C111 C128 C111 ;C128 C111 ;	2.00391166 7	Q9UK41	3
FTSC*VAFFNILNELNDYAGQR	C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 ;C69 C69 C69 C69 C69 C69 C69 C69 ;C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 C69 ;	2.003826	S4R347	3
LEVDAIVNAANSSLLGGGGVDGC*IHR	C186 C186 ;C186 C186 ;C186 C186 ;	2.00123304 3	Q9BQ69	3
HTLDGAAC*LLNSNK	C170 C102 C113 C35 C134 C170 C102 C113 C35 C134 ;C170 C102 C113 C35 C134 C170 C102 C113 C35 C134 ;X ;	2.00060272 7	S4R3N1	3
C*LEHGIQPDGQMPSDK	C25 C25 C25 C25 C48 ;X ;X ;	2.00035015 6	P68363	3
VVNEINIEDLC*LTK	C92 ;C92 ;C92 ;	2.00032	Q8N5K1	3
VPQC*PSGR	C88 ;C88 ;X ;	2.00031	Q16186	2
C*YEMASHLR	C92 C128 ;C128 ;X ;	1.999908	K7EJ44	2
ELEAVC*QDVLSLLDNYLIK	C97 C97 C97 C97 ;C97 C97 C97 ;C97 ;	1.99987235 3	P61981	3
AIMMASQSLMC*GHQDVMVAGGMESMSNPYVMNR	C142 ;C142 ;X ;	1.99906333 3	P24752	3
SC*PSFSASSEGR	C9 ;C9 C9 C9 C9 ;X ;	1.99845111 1	P27707	2
YFGC*ELGAQTQFDVK	C59 C59 C59 C59 C59 ;X ;C59 ;	1.997915	H0YM54	3
VWLQYQC*LWDMQAENIYNR	C1059 C1059 C1059 ;C1059 C1059 ;C1059 ;	1.99244571 4	Q14204	3
SVAPAAPTSC*DFSPGDLVWAK	C88 ;X ;C88 ;	1.990765	P52701	2

AC*PRPEGLNFQDLK	C219 C227 C307 ;C219 C227 C307 ;C219 C227 C307 ;	1.98943333 3	P15927	3
VHTIVISVQHDEEVC*LDEMR	C214 ;C214 C214 ;C214 C214 ;	1.98889222 2	P31153	3
AGKPVIC*ATQMLESNIK	C326 C326 ;C326 ;C326 C326 ;	1.98408916 7	P14618	3
WHLC*PTLYESR	C263 C222 C264 ;C263 C222 C264 ;C263 C222 C264 ;	1.983704	Q9H3H3	3
LLDLVQQSC*NYK	C30 C34 ;C30 C34 C30 C34 ;C30 C34 ;	1.98334307 7	P55769	3
HGFC*GIPITDGR	C140 C140 ;C140 C140 ;C140 C140 ;	1.98233545 5	P12268	3
SGDAAIVEMVPGKPMC*VESFSQYPLGR	C411 ;M410 C411 ;X ; C70 ;C70 C70 ;C70 C70 ;	1.98180714 3	Q05639	3
NQSFC*PTVNLDK	C177 C177 C177 C177 C177 C177 C177 C177 C177 C177 ;X ;X ;	1.97692153 8	P45984	2
C*NYLALVGGGK	C63 ;X ;C56 C63 ; X ;M1 C15 ; C15 ;M1 C15 M1	1.97619333 3	Q5MNZ6	2
MKWLLLLGLVASEC*IMYK	C129 ;X ;X ;	1.97563		2
QVLMGPYNPDTC*PEVGFFDVLGNDR	C129 ;X ;X ;	1.975176	Q9H3P7	3
IGLIQFC*LSAPK	C252 C222 ;C252 C222 ;C252 C222 ;	1.971395	P50991	3
TC*ETGEPMEAESGDSSEGPAQVYLPGR	C11 ;C11 C11 ;C11 ; X ;C247 C52 C64 C247 ;C247 C247 ;	1.97062	Q9BQ67	3
NLLC*GFYGR	C669 C669 C669 C657 C669 ;X ;X ;	1.97043		2
C*SPTVAFVEFPSSPQLK	C669 C669 C669 C657 C669 ;X ;X ;	1.96944857 1	Q9UPQ0	3
C*AQYWPQKEEK	C121 ;X ;X ;	1.96897666 7	P18031	2
AVTVAF*C*TLPTR	C163 ;X ;C163 ;	1.96891666 7	Q5TA50	3
IQCTLQDVGSALATPC*SSAR	C80 C132 C132 ;C80 C132 C132 ;X ;	1.96631	S4R3P5	2
ADEASELAC*PTPK	C2202 ;C2202 ;X ;	1.9657175	P49327	2
IQHSITAQDHDQPTDSC*IISMVVGQLK	C80 C80 ;C80 C80 ;C80 ;	1.96506769 2	H3BRV9	3
KC*PFYAAEQDK	C236 C265 C319 C236 C265 C319 ;C236 C265 C319 ;C236 C265 C319 ;	1.96483384 6	P30519	3
IC*LAEAFLTADTILNLTQNISEGLVVYPK	X ;C340 C340 ;C340 ;	1.964768		2
ALANVNIGSLIC*NVGAGGPAPAAGAAPAGGPAPSTAAA PAEEK	C61 C61 ;C36 C36 C36 ;C36 C36 C61 C61 ;	1.96366787 9	P05386	3
LQVEPAVDTSVQVC*YGPQIEGQGVFR	C1260 C1260 C1233 ;C1260 C1260 C1233 ;X ;	1.962075	P21333	2
VMGIVENMSGFTC*PHCTECTSVFSR	C196 ;X ;X ;	1.96108461 5	Q9Y5Y2	3
IINDNATYC*R	C211 ;C211 C211 ;X ;	1.961002	O00567	2
ANC*DASLIVTEELHLITFETEYVYHQLK	C426 ;X ;C426 C426 ;	1.959734	P40763	3
VTDGALVVDCVSGVC*VQTETVLR	C136 C136 C136 C136 ;C136 C136 C136 C136 ;C136 C136 C136 C136 ;	1.95827789 5	P13639	3
GNLYSFGC*PEYQQLGHNSDGK	C280 ;C280 ;X ;	1.95763	Q9P258	2
VRNC*SSPEFSK	C53 C53 C58 ;C53 C53 C58 C53 ;X ;	1.95611	Q99829	2
TDVVLVSC*DLITDVALHEVVDLFR	C106 C106 C106 ;C106 C106 C106	1.95540882 4	Q9NR50	3

	;C106 C106 C106 C106 C106 C106 C106 C106 C106 ;			
VGSFC*LSEAGAGSDSFALK	C175 ;X ;C73 C175 ;	1.95439166 7	P45954	2
RVETNQDWSLMC*PNECPGLDEVWGEEFEK	C352 ;C352 ;X ;	1.95273235 3	P23921	3
DSSTC*PGDYVLSVSENSR	C44 C44 ;C44 ;X ;	1.95089666 7	P46109	2
LMC*PQEIVDYIADKK	C95 C140 ;C95 C140 ;X ;	1.95057333 3	H3BNK3	2
VC*FGIQLLNAVSR	C218 C208 C188 ;C218 C208 C188 ;X ;	1.95036	A0A0C4DF N3	2
SQLSC*VVVDDIER	C594 C599 ;C594 C599 ;C594 C599 ;	1.94833	I3L0N3	3
ASIGAGFIYPLVGTMTMSTMPGLPTRPC*FYDIDLDTETEQV K	C961 M954 C962 M888 C896 ;X ;X ;	1.94806777 8	Q6UB35	3
FAC*HSASLTVR	C56 C145 ;C56 C145 ;C145 ;	1.947622	Q15233	3
LLC*EQNEEEVSPQLFTFHEAVSQMVEMEEQVVEDHR	C634 C550 C569 C576 C596 ;X ;C634 C550 C569 C576 C596 C634 C550 C569 C576 C596 ;	1.94721333 3	O00139	2
NVLDESDVWVMEFYAPWC*GHCK	C190 C238 C242 C195 C187 ;C190 C238 C242 C195 C187 ;C190 C238 C242 C195 C187 ;	1.94700171 4	Q15084	3
GDLENAFLNLVQC*IQNKPLYFADR	C280 C262 C280 C262 C280 C262 ;C280 C262 C280 C262 ;C280 C262 ;	1.94597133 3	P07355	3
YYALCGFGGVLSL*GLTHTAVVPLDLVK	C75 ;C75 C75 ;C75 C75 ;	1.944306	Q00325	3
GPQLFHMDPSGTFVQC*DAR	C165 ;X ;X ; C107 M156	1.94427428 6	P28066	3
LNQVC*FDDDGTSPPQDR	C422 C299 C422 ;X ;X ;	1.94292	H3BVG0	2
NTPLC*DSFVFR	C429 ;C429 ;C429 ;	1.9420425	O95573	3
TASISSPSEGTPVGSYGC*TPQSLPK	C787 C864 ;C787 C864 ;C787 C864 ;	1.94132	Q6PKG0	3
EVEGEVTELTTPC*ETENPMGGYGK	C141 C141 C141 ;C141 ;C141 ;	1.93948	Q9Y265	3
LQEVPHGPMC*DLLWSDPDDR	C196 ;C196 C196 ;X ;	1.938595	P67775	2
SFFTASEGC*SNPLGGGR	C188 C188 ;C188 C188 ;X ;	1.938346	Q9UKV8	2
LSC*QPMLSLDDFQLQPPVTR	C105 ;C105 ;C105 C105 ;	1.937553	O75607	3
YATSCYSCC*PR	C144 C173 ;X ;X ;	1.935335	Q13057	2
SGDAAIVDMVPGKPMC*VESFSDYPLGK	C409 ;X ;X ;	1.93509781 6	A0A087WV 01	3
MHSVGC*GSDVHYWEYGR	C24 C45 ;C24 C45 ;C24 C45 ;	1.93488833 3	H0YLA4	3
LDVENSSEVAVSVLNFALSITPLSELVGLC*K	X ;C317 ;C317 ;	1.93482		2
AFVNPFPDYAAAAGALLASGAAEETGC*VRPPATTDEPG LPFHQDQK	C49 ;C49 ;X ;	1.93469	Q9NS86	3
VLGLGLGC*LR	C88 C88 C75 C88 C88 ;C88 C88 C75 C88 C88 ;C88 C88 C75 C88 C88 ;	1.933426	Q9BRJ7	3
IPDIVLWPTC*HDDVVK	C214 ;X ;C214 ;	1.932345	O00116	2
GMPETTQPDKQC*GQVAAAAAQPPASHGPER	C151 ;X ;X ; C93 M141	1.931488	C9JFK9	2
AIVDCGFEHPSEVQHEC*IPQAILGMDVLCQAK	C74 C75 C75 C75 ;X ;X ;	1.931474	O00148	3
NVTQIEPFC*LETDR	C594 C630 ;X ;X ;	1.930748	Q9ULW0	3

FRWDFAAEPEDC*APVVVELPEGIEMG	C370 ;X ;C370 ;	1.92976	Q9Y312	2
IQAHESESGQLVGVDLNTGEPMVAEEVGVWDNYC*VK	C499 ;C454 C499 ;X ;	1.92944	P40227	2
LLAC*IASR	X ;C174 ;C174 ;	1.929195		2
AVC*MLSNTTAVAEAWAR	C376	1.92822403 2	Q9BQE3	3
AEPYC*SVLPGFTFIQHLPLSER	C240 C391 C291 C291 C302 C291 C391 ;C240 C391 C291 C291 C277 C302 C291 C391 ;C240 C391 C291 C291 C277 C302 C291 C391 ;	1.92633166 7	M0R3F1	3
YSEEANLIEEC*EQAER	C131 ;C131 C131 ;X ;	1.92579	Q96HE7	2
AAQLQEALLHC*GR	C5394 C3308 C3486 C3308 C3348 C5394 ;X ;X ;	1.92555	F8W9J4	2
DGVADSTVISSMPC*LLMELR	C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 C57 ;C57 C57 C57 C57 C57 ;X ;	1.924552	Q96B23	2
C*IPYAVLLEALALR	C110 C110 C110 C110 C110 ;C110 C110 C110 C110 C110 ;X ;	1.924422	F5H248	3
DQELYFFHELSPGSC*FFLPK	C376 C343 ;C376 C343 ;C376 C343 ;	1.92420666 7	P26639	3
YIIVTQVGPQPILDDPC*AHLLGPDGLPKPAA	C386 ;C386 ;C386 C386 ;	1.92370384 6	P53602	3
ELEASEELDTIC*PK	C229 C229 C229 C229 ;C229 C229 ;C229 ;	1.92347230 8	O76003	3
LNLSC*IHSPVVNELMR	C106 ;C106 ;X ;	1.92338	Q9Y2X3	2
TDICQGALGDC*WLLAAIASLTLNDTLLHR	C115 ;C115 ;X ;	1.922325	P07384	2
HLEEHVDVLMTSNIVQC*LAAMLDTVVFK	C299 ;M292 C299 ;X ;	1.92121066 7	O00487	3
LLLC*GGAPLSATTQR	C450 ;C450 ;C450 ;	1.91976666 7	O95573	3
FMLVLASNLPEQFDC*AINSR	X ;C415 C461 ;C461 ;	1.919725		2
YSWSGEPLFLTC*PTSEVELPACSGCGQR	C278 ;X ;X ;	1.91776	Q9BRP1	2
VEEEDDAEHVLLALTMLCLTEGAKDEC*NVVEVVAR	C79 C79 ;X ;C79 C79 ;	1.91744	O75607	3
FDLFFILVDEC*NEVTDYAIAR	X ;C540 ;C540 ;	1.91720666 7		2
C*MTNTPVVVR	C120 C147 C120 ;C120 C147 C90 C120 ;C120 C147 C120 ;	1.91601909 1	P32322	3
C*PQVEEAIVQSGQK	C158 C146 ;X ;X ;	1.9151375	Q9BVP2	3
GNLNFTC*NGNSVISPVGNR	C24 ;X ;X ;	1.91407	AOA0B4J2E 5	2
NGLQSC*PIKEDSFLQR	X ;C1013 C1058 ;C1013 C1013 C1058 ;	1.91342		2
LFTEYPC*GSGNVYAGVLAVAR	C280 ;C280 ;X ;	1.912655	Q8IU81	2
ELADYLC*EDAQQLSLEDTFSTMK	C898 C898 C898 C898 C898 C898 ;C898 C898 C898 C898 ;C898 C898 ;	1.909257	Q27J81	3
AAHTEDINAC*TLTTSR	C657 C637 ;X ;X ;	1.908645	P04049	2
AMAHCGSQEALIVGGVGC*NVR	C265 ;C265 ;C265 ;	1.9079825	Q9NPF4	3
IHMGC*AENTAK	C196 ;X ;C196 ;M193	1.90747428 6	P24752	2

QILLGIQELLNEPNIQDPAQAEAYTIYC*QNR	C138 C138 ;X ;X ;	1.90739714 3	P63279	2
FMC*AQLPNPVLDSISIIDTPGILSGEK	C138 ; C152 M151 C138 ;M151 C152 M137	1.90732083 3	C9JC03	3
C*LLIHPNPESALNEEAGR	C118 C147 ;C118 C147 ;C118 C147 ;	1.90704181 8	Q16763	3
IAPC*PSQDSLSDPLDSTSAQAGEGVQR	C308 ;C169 C308 ;C308 ;	1.90632333 3	Q99704	3
AHVVPC*FDASK	C1157 C1157 C1130 ;C1157 C1157 C1130 ;C1157 C1157 C1130 ;	1.90611333 3	P21333	3
AAGIIHLGATSC*YVGDNTDLILR	X ;C113 C113 ;C113 ;	1.90226		2
AALAAC*PSSPFPAMP	C502 C463 ;C502 C463 ;C502 C463 ;	1.90146857 1	Q8N2G8	3
ICDGCIIVDAVEGVC*PQTQAVLR	C73 C124 C73 C124 C73 C124 ;C73 C124 ;C73 C124 ;	1.90126833 3	Q7Z2Z2	3
HLYTLDDGGDIINALC*FSPNR	C240 C240 ;C240 C240 ;C240 C240 ;	1.89927812 5	P63244	3
EPVC*SALNSAILETHNLPK	X ;X ;C337 C678 C449 ;	1.89888		2
YHPLSSC*LTAR	C819 C840 ;C819 C840 ;X ;	1.897696	Q96T76	3
VC*ISILHAPGDDPMGYESSAER	C89 C61 C89 C61 ;C89 C61 C89 C61 ;X ;	1.89696555 6	P60604	3
WFLTC*INQPQFR	C244 C194 ;C244 C194 ;X ;	1.89682375	P26641	3
YWLC*AATGPSIK	C249 C249 ;C249 C249 ;C249 ;	1.89671444 4	P63244	3
TC*QVLEALNVLVNRPNIR	C102 ;C109 C102 ;X ;	1.896365	O14933	2
ESGSLSPEHGPPVVHC*SAGIGR	C215 ;X ;X ;	1.89523333 3	P18031	2
EQSDFC*PWYIGLPPFIPYLDNLPFN	C414 C413 C414 C413 C414 C413 ;C414 C413 C414 C413 ;C414 C413 ;	1.89512375	P15170	3
NTGIIC*TIGPASR	C49 C49 ;C49 ;C49 C49 ;	1.89482666 7	P14618	3
VNSDC*DSVLPNFFLLGGNIFDPLNLSLLDEEVS	C177 ;X ;C177 ;	1.89440583 3	Q7L2J0	3
SESGGLGVSMVEYVLSSSPGDSC*LR	C270 C234 C234 C234 C251 C234 C270 C234 C234 C234 C251 C234 C270 C234 C234 C234 C251 C234 ;C270 C234 C234 C234 C251 C234 ;X ;	1.89322	Q5T1Z8	2
AHFDYDPSDDPYVPC*R	C366 C332 ;C366 C332 C366 C332 ;X ;	1.89284333 3	Q8N3R9	2
VC*QGIGMVNR	C133 ;C133 ;X ;	1.89143666 7	Q9Y3C6	2
ACGGPGNFC*PSFSELQR	C188 C188 C188 C86 ;C188 C188 C188 C86 ;C188 C188 C188 C86 ;	1.890645	Q15646	3
NMVHPNVICDGC*NGPVVGR	C131 ;X ;C154 C131 C131 ;	1.89051333 3	Q13501	3
VWNLANC*K	X ;C182 ;C182 ;	1.89051		2
DC*LIPMGITSENVAER	C136 C177 ;C50 C136 C177 ;C136 C177 ;	1.88735	C9JDE9	3
C*LMDQATDPNILGR	C4106 ;X ;C4106 ;	1.8871475	P78527	3
LDVGNFSWGSEC*CTR	C71 ;X ;C71 ;	1.88310333 3	P62241	3

VC*SVNPPSAIEMQLR	C901 C748 C410 C901 C901 ;X ;X ;	1.88304	E9PHV5	2
SLADLQQQEEETYADAC*DEFLDPIMSTLMCDPVVLPSS R	X ;C996 C989 ;C996 ;	1.88157		2
MGMEAVMALLEATPDTPAC*VVTLSGNQSVR	C334 ;C334 ;X ;	1.880466	P17858	2
VTVAGLAGKDPVQC*SR	C46 C46 ;X ;X ;	1.87852	Q99497	3
DNAAVDGLSLHLQDICPLLYSTDDAIC*SK	X ;C874 C815 ;C874 C815 ;	1.87809		2
VTAVIPC*FPYAR	C91 C91 C91 C91 ;X ;C91 C91 C91 ;	1.87714777 8	P60891	3
SC*TPSPDQISHR	C272 C272 ;X ;X ;	1.87674	Q7Z2W4	2
AAQGPAPAVPPNTDVMAC*TQTALLQK	C152 C115 C146 ;C152 C115 C146 ;X ;	1.87570166 7	O60232	3
LANVQLLDTDGGFVHSDGAISC*HDMFDLHLTGGSYAK	C188 ;C188 ;C188 C188 ;	1.87551285 7	P68402	3
LPGETLITDKEVIYIC*PFNGPIK	C53 C53 C53 C53 ;C53 C53 C53 ;X ;	1.8746825	Q13496	3
VILITPTPLC*ETAWEEQCIQGCK	C112 C24 C24 C117 C24 C137 C112 C24 C24 C117 C24 C137 C112 C24 C24 C117 C24 C137 ;C112 C24 C24 C117 C24 C137 C112 C24 C24 C117 C24 C137 ;C24 C117 C137 C24 C117 C137 ;	1.87394842 1	C9JE02	3
VSC*LGVTDDGMAVATGSWDSFLK	C317 C317 ;X ;C317 C317 C273 ;	1.873	P62873	2
MVDNEAIYDIC*R	C213 C213 C213 C213 C213 C237 C147 ;X ; C213 C213 C213 C213 C213 C237 C147 ;	1.87259297 3	P68363	3
IPDQLGYLVLSEGAVLASSGDLENDEQAASAISELVSTAC *GFR	C51 C51 C51 C51 C51 C51 ;C51 C51 C51 C51 C51 C51 ;C51 C51 C51 ;	1.87219666 7	A0A087WV 46	3
VSMILQSPAFC*EELESMIQEYFKK	C68 ;X ;X ; C68 M60	1.87143529 4	P35611	3
LVTSPC*CIVTSTYGWTANMER	C597 C719 ;X ;C597 ;	1.87077666 7	P07900	2
VVLPC*SVQEYQVGQLYSVAEASK	C15 C13 C13 ;C15 C13 C13 C13 ;C15 C13 C13 C15 C13 ;	1.86738666 7	P48739	3
ELETVC*NDVLSLLDK	C97 ;C97 C84 ;X ;	1.86706	Q04917	2
ALSGGLYPVSAVLCDDDIMLTIKPGEHGSTYGGNPLGC* R	X ;X ;C330 ;	1.86683		2
LSC*VPVLIFANK	C118 ;X ;C118 ;	1.86557923 1	P36405	3
GLYDGPVC*EVSVTPK	C468 C504 ;C468 C504 ;C468 C504 ;	1.86542857 1	Q16555	3
YLEVSEPDIEC*CGALEYYDK	C146 C180 C195 C146 C180 C195 ;X ;X ;	1.8650775	O15371	2
GTELDC*GIETDSGVDDDMACHKIPVEADFLYAYSTAPG YYSWR	C170 ;X ;X ;	1.86475666 7	P42574	3
NTVLC*NVVEQFLQADLAR	C70 C70 C70 C70 ;C70 C70 C70 ;C70 C70 C70 ;	1.8645175	Q14258	3
NC*LTNFHGMDLTR	C96	1.8638025	P61247	3
EITAISSVPC*QLLESVLQELK	C704 C645 C704 C645 C704 C645 ;C704 C645 ;C704 C645 ;	1.86365125	O75694	3

ETGANLAIC*QWGFDEANHLLLQNNLPAVR	C302 C264 C281 ;C302 C264 C281 ;C302 C264 C281 ;	1.86331666 7	P48643	3
IQLEHHISPQDFPDC*QK	C356 C220 ;C356 ;X ;	1.86249	Q9NZN4	3
LVMEYLAIC*DECYITEMEMLLNEK	C522 ;C522 ;C522 ;	1.86044166 7	P41250	3
GISEFIVMAADAEPLEIILHLPLLC*EDK	C73 C77 ;C73 C77 ;C73 C77 ;	1.860382	P55769	3
VAAASGHC*GAFSGSDSSR	C919 C947 ;X ;X ;	1.85992333 3	Q9NZB2	2
SCVLFNC*AALASQIAAEQNLDNDEGLK	C127 C127 ;X ;X ;	1.85919	Q8WUM4	2
SLRDDYEVSC*PELDQLVEALAVPGVYGSR	C352 C322 C352 C322 ;C352 C322 ;C352 C322 ;	1.8583775	P51570	3
SFC*SQFLPEEQAEIDQLFDALSSDK	X ;C13 ;C13 ;	1.85769		2
LGTLPFCC*PWEQLTQDWESR	C706 ;C706 ;C706 ;	1.85659	Q99575	3
LWNTLGVC*K	C138 ;C138 ;C138 ;	1.85550571 4	P63244	3
INPYMSSPC*HIEMILTEK	C144 C144 C144 C106 C144 C134 C106 C144 C144 C144 C144 C144 C106 C144 C134 C106 C144 C144 ;C144 C144 C144 C106 C144 C134 C106 C144 C144 ;C144 C144 C144 C106 C144 C134 C106 C144 C144 ;	1.85550235 3	A0A087WX M6	3
FPDFLDC*LPGTNVDLGTLESEDLIPLFNDVESALNK	C363 ;C363 ;X ;	1.85518333 3	Q9GZV5	3
GLLDVTC*K	C120 ;C120 C120 C120 C120 ;C120 C120 C120 C120 ;	1.854995	P63208	3
TASLELGEDDDEQEDDDIEYFC*QAVGEAPSEDLFPEAK	X ;C338 C391 C391 C391 C391 C391 ;X ;	1.85445666 7		2
ASGPDGEC*DSNGPGFYLDLSTHGTFLNK	C224 C170 ;C224 C170 ;C224 C170 ;	1.85401166 7	Q9BWU0	3
YDC*GEEILITVLSAMTEEAVAIK	C159 C129 C159 C129 C159 C129 ;C159 C129 C129 C159 C129 C129 C159 C129 C129 ;C159 C129 C129 C159 C129 C129 C159 C129 C129 ;	1.85328257 1	P63241	3
MYSPYC*LTQDEFHPFIEALLPHVR	C6 C6 ;X ;C6 C6 C6 ;	1.852945	Q14938	2
FVVDVDKNIDINDVTPNC*R	C112 C104 ;C112 C104 ;C112 C104 ;	1.852814	P62195	3
C*CLTYCFNKPEDK	C144 ;X ;C144 ;	1.85060333 3	P62979	3
VFFIQAC*QGDNYQK	C345 C419 C377 C360 C276 C345 C419 C377 C360 C276 ;C345 C419 C377 C360 C276 ;X ;	1.85029333 3	Q14790	2
C*TPACISFGPK	C34 C34 ;C34 C34 C34 ;X ;	1.849955	P34932	3
TIIPLIQC*TPK	C212 C105 ;C212 C105 ;X ;	1.84907666 7	P40926	3
ALANSLAC*Q GK	C393 C339 ;C393 C339 ;X ;	1.84846	P04075	2
AVSTGVQAGIPMPC*FTTALSFYDGYR	C409 C422 ;C409 C422 C409 C422 ;C409 C422 ;	1.84820363 6	P52209	3

AVC*MLSNTTAAIEAWAR	C376	1.84647918 6	P68363	3
APELLGC*K	C177 C177 ;C177 C177 ;X ;	1.84645	G3V5T9	2
SYC*AEIAHNVSSK	C96 ;C96 C96 C114 ;X ;	1.845791	D3YTB1	3
NLSLDIDLVPCLC*EDLLSSVDQPLK	C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 ;C36 C65 C36 C24 C62 C36 C65 C36 C24 C62 ;C36 C65 C36 C24 C62 ;	1.84574	P47756	3
LTALDYHNPAGFNC*K	C19 ;C19 ;C19 ;	1.84507625	Q9Y224	3
ETTQNALQTPC*YTPYYVAPEVLGPEKYDK	C203 C203 ;X ;X ;	1.84411272 7	C9J8E1	3
YTSDFISYGIEHAQC*VPPSEFSEPSFITESYQTLHPISS EELLSLK	X ;C169 ;C169 C169 ;	1.84407666 7		2
AHEILPNLVCC*SAK	C149 C149 ;C149 ;X ;	1.843726	P50990	3
HNTNTATPFC*NR	C814 C849 C814 ;C74 C814 C849 C814 ;X ;	1.843405	Q8NDI1	2
C*EEETPSLLWGLDPVFLAFK	C8 ;C8 C8 ;C8 ;	1.842664	Q9H668	3
IIANALSSEPAC*LAIEIEDKAR	C3347 ;X ;X ;	1.84173	P78527	2
AEIPC*EDEQEHEHNGPLDNK	C439 C626 C455 C471 C626 ;C439 C626 C455 C471 C626 C439 C626 C455 C471 C626 ;X ;	1.84132	Q96SB4	2
AFQYVETHGEVC*PANWTPDSPTIKPSAASK	C229 C229 ;C211 C229 ;C229 C229 ;	1.83973136 4	P30048	3
GYGC*AGVSSVAYGLLAR	C115 C115 ;C103 C115 C94 C115 ;C115 C115 ;	1.8392775	Q92947	3
ATYDKLC*K	C59 ;C59 ;X ;	1.83821666 7	P62851	2
AALANLC*IGDVITAIDGENTSMMTHLEAQR	C45 ;X ;X ;	1.83816	O00151	3
AELFVQC*LATYSYR	C55 C55 ;C55 ;X ;	1.83787	Q9NRG0	2
AVLC*PPPVK	C178 ;X ;X ;	1.8377	P63000	2
LYLDELEGGGNGPGASC*K	C400 C408 ;X ;X ;	1.83757333 3	Q9HD26	2
MC*DLVSDFDGFSE	C182 ;C182 ;C182 ;	1.83684333 3	P30520	3
SCYDLSC*HAR	C471 ;C471 ;X ;	1.8367625	P41250	2
NLQTCMEVLEALYDGLGDC*K	C817 ;C817 ;X ;	1.8359875	Q9BXJ9	2
EIITLQLGQC*GNQIGFEFWK	C13 C13 C13 C13 C13 C13 ;C13 C13 C13 C13 C13 C13 ;C13 C13 C13 C13 ;	1.83436076 9	P23258	3
TFVSGAC*DASSK	C127 C204 ;C127 C204 ;X ;	1.83416333 3	H7C5J5	2
QEC*GEPALPSASEEQVAQDTEEVFR	C14 C14 C14 ;C14 C14 C14 ;X ;	1.833455	Q16611	2
GGDC*DFSTFDVPITTEFLDQNK	C177 C153 C75 C194 C177 ;C177 C153 C75 C194 C177 ;X ;	1.832865	Q9P0W2	2
LVC*PAAYGEPLQAAASALGAAVR	C110 ;C110 ;C110 ;	1.83074	P23610	3
AGAPDEAVCGENVSIQIC*ALLGCMDDYTTDSR	C850 C850 C850 ;C850 C850 C850 C850 C850 C850 ;X ;	1.83066076 9	Q9BTW9	3
MAC*GLVASNLNLKPGELR	C3 ;X ;X ;	1.82944625	P09382	3
LTPGC*EAEAEIEAICFFVQQFTDMEHNR	C2359	1.82937084 5	P49327	3
GVWGTGQVYDVEEVDVKDPNYDDQENC*VYETVVLP LDER	C139 C150 ;X ;X ;	1.82936	Q53EL6	2

SLLC*GEDEAADENPESQEMLEEQVLR	C941 C941 ;C941 ;X ;	1.8281175	Q9HAV4	2
C*PFTGNVSIR	C60 C60 ;C60 C60 ;C60 ;	1.82726266 7	P62280	3
ENMAYTVEC*LR	C125 ;X ;X ;	1.82572	P22695	2
EHSIEDLILLEEC*DANIR	C421 C362 C421 C362 ;C421 C251 C362 C421 C251 C362 ;C421 C362 C421 C362 ;	1.825605	Q9H7B4	3
C*PSQLQPAPR	C923 ;C923 ;X ;	1.82485666 7	P35568	2
LC*PGGQLPFLLYGTEVHTDTNK	C59 C59 ;C59 ;C59 ;	1.82347285 7	O00299	3
GC*TATLGNFAK	C229 C229 ;C229 ;C229 ;	1.82272777 8	P15880	3
SIC*TTVLELLDK	C94 ;X ;X ;	1.82264857 1	P27348	3
HFVLDEC*DK	C197 ;C197 ;X ;	1.82192666 7	O00148	2
YAIC*SALAASALPALVMSK	C125 ;C125 ;X ;	1.8215	P36578	3
YSDVEVPASVTGYFASDGDGSGTC*SPLR	C430 ;C430 C430 C430 C430 C430 C430 C430 C430 ;	1.82105625	P35611	3
KAC*GDSTLTQITAGLDPVGR	C25 ;C25 C25 ;X ;	1.8193525	P62879	2
LGGTIDDC*ELVEGLVLTQK	C221 C191 ;C221 C191 ;C221 C191 ;	1.81870666 7	P50991	3
C*LEELVFGDVENDEDEALLR	C90 C90 C90 C90 ;C90 C90 ;C90 ;	1.81862818 2	Q9Y5J1	3
ANNNAAVAP TTC*PLQPVTDPFAFSR	C46 ;X ;X ;	1.81849666 7	J3KNL6	2
TMHLLLEVEVIEGLQC*PESGR	C100 C95 ;C100 C95 ;C100 C95 ;	1.81793687 5	Q9UI30	3
DLNC*VPEIADTLGAVAK	C22 ;C22 ;C22 ;	1.81721	O14744	3
DPC*AAPNEGFC SAGVQTEAGVADLTWVGER	C65 C65 C65 C65 ;C65 C65 C65 C65 ;C65 C65 C65 ;	1.81716476 2	Q9BQA1	3
ENPD LAC*LQSIIFDEERSPEEQAK	C63 C63 ;X ;C63 ;	1.81714	O95801	3
SAGAC*TAAAF LK	C431 C462 ;X ;X ;	1.8155675	P28838	3
GTLTLC*PYHSDR	C779 C779 ;C779 ;C779 ;	1.81368444 4	Q13200	3
AC*YLSINPQKDEALETEK	C222 C222 ;C222 ;X ;	1.813268	P42025	3
WVYPLTPEANFTDSTTQSC*THSR	C335 C335 C335 C335 ;X ;C335 C335 ;	1.8129	E9PC74	2
IGEMPLTDSILCDGLTDAFHNC*HMGITAENVAK	C158 ;C158 ;C158 ;	1.81192	Q9BWD1	3
EKHEEFCVPMVMVPATVSNVPGSDFSIGADTALNTITD TC*DR	X ;X ;C563 ;	1.81113333 3		2
TAIHTAAMDMLGGPGIESQC*R	C218 ;M208 C218 ;	1.8102205	Q6YN16	3
SFC*PGGTDSVSPPPSVITQENLGR	C314 ;X ;C314 ;	1.80859	Q9C0C9	3
TC*FSMVPALQQELDSRPQLR	C84 C84 C84 ;C84 C84 C84 ;X ;	1.808235	K7ENV7	2
GLIDYNFHC*FR	C358 ;C358 ;C358 ;	1.808188	Q9HB90	3
ADDTFEALC*IEPFSSPELDPVMKPDQSGSSANEQAVQ	X ;C89	1.8078275		2
IISNASC*TTNCLAPLAK	C152 C152 C152 ;C152 C152 C152 ;C152 C152 C152 C152 ;	1.80666904 8	P04406	3
AWSTGDC*DNNGDEWEQEIR	C54 ;C54 ;X ;	1.80605214 3	Q9BRF8	3

VHIPNDDAQFDASHC*DSDKGEFGGFGSVTGK	C141 C97 C141 C97 ;C141 C97 C141 C97 C141 C97 ;C141 C97 ;	1.80577583 3	Q16576	3
CC*LTYCFNKPEDK	C145 ;X ;X ;	1.80489125	P62979	3
LKNCGC*LGASPNLEQLQEENLK	C34 ;X ;C34 ;	1.80473	P54136	3
ECPSDEC*GAGVFMASHFDR	C126 ;X ;X ;	1.80418333 3	P62979	3
LSDFGLC*TGLK	C234 ;X ;C234 ;	1.80321	Q15208	3
EGIC*ALGGTSELSSSEGTQHSYSEEEK	C104 ;C104 C104 ;C104 ;	1.80293641	P13797	3
LLAVNNVC*LEEVTHEEA VTALK	C378 C345 C345 C378 C378 C378 C327 C327 C345 C378 ;X ;X ;	1.80201333 3	Q12959	3
YAYLNVVGMVGSIDNDFC*GTDMTIGTDSALHR	C179 ; C179 M170 C179 ;M170 X ;M170	1.80161857 1		2
VLTC*TDLEQGPFFLDLFENAQPTESEK	C10 C10 C10 C10 ;C10 C10 ;C10 ;	1.79991461 5	Q9NUQ9	3
TNHIGHTGYLNTVTVSPDGLSC*ASGGK	C207 ;C207 ;C207 ;	1.79950545 5	P63244	3
MDILDVLTAAQELSRPGC*LGR	C628 ;C628 ;C628 ;	1.798674	Q9Y4R8	3
LLYAATADSSSSSTSSDSLGGGYC*GAR	C821 ;X ;X ;	1.79863666 7	P35568	2
SVLC*STPTINIPASPFMQK	C22 ;C22 C22 ;C22 C22 ;	1.79764375	Q96KB5	3
FLENTPSSLNIEDIEDLFLAQQYC*SK	C283 C283 C283 C283 C283 C283 ;C283 C146 C283 C283 C146 C283 ;C283 C283 C283 C283 ;	1.79482192 3	Q9NUY8	3
VIIVQAC*R	C258 C202 C211 C258 C202 C211 ;C328 C258 C258 C257 C315 C173 C202 C211 C245 ;C258 C202 C211 ;	1.79407333 3	P49662	3
AKFENLC*K	C564 ;C564 ;X ;	1.792755	P08238	2
TSGSEDDNAEQAELEPGWVLDQPDAAC*HLQQQE PSPLPPGWEER	C192 C601 C182 ;X ;C192 C601 C182 C192 C601 C182 ;	1.79217833 3	H0Y8X6	3
C*QALFHGPGEALALTEAAR	C76 ;C76 ;C76 ;	1.79162666 7	P23610	3
C*GESMLCVVPDISAFR	C308 ;X ;X ;	1.78987333 3	Q06330	2
RLQMEGEGGGETPEQPGLNGAAAAAAGAPDEAAEALG SADC*ELSAK	X ;C53 ;X ;	1.789664		2
TEGLC*PDSATEEEDTVELTEFGMQNVEIPHL PQDFEVA K	C119 C119 C119 ;C119 ;X ;	1.78953	Q9UKK3	2
GEASEDLC*EMALDPELLLRDDGEEEFAGAK	C319 C336 C644 C644 C319 C336 C644 C644 ;C319 C336 C644 C644 ;C644 C644 ;	1.78911476 2	G3V119	3
VAC*AEWQESR	C87 ;C87 C87 ;X ;	1.788865	O75663	2
TTSFAESC*KPVQQPSAFGSMK	C14 C14 ;C14 C14 C14 C14 ;C14 C14 ;	1.78828	P49841	3
AHSNPDFLPVDNC*LQSVLGQR	C798 C703 C798 C703 C798 C703 ;C798 C703 C798 C703 ;C798 C703 ;	1.78739133 3	Q5VSL9	3
THDLTLASHEENPAWLPLYGSVC*CR	C247 C284 C297 ;C247 C284 C297 ;X ;	1.78738	Q9BST9	2
VPLASQGLGPGSTVLLVVDKC*DEPLSILVR	C70 C70 C78 ;C70 C70 C78 ;C70 C70 C78 ;	1.78593333 3	A0A096LPJ 4	3

ENFDEVVNDADIILVEFYAPWC*GHCK	C206 ;C206 C206 ;C206 C206 ;	1.78590241 4	P13667	3
C*TAGAYMFPDMLQAAGCFVGVVLSSELPEDDRELFEDLLR	C288 ;C288 C288 ;C288 ;	1.78532454 5	Q8N0X7	3
TGQATVASGIPAGWMGLDC*GPSSKK	C316 ;X ; C316 ;M284 C288 M312	1.78456153 8	P00558	3
VC*FVTSMMTGR	C119 C119 C195 C153 ;C195 C119 C153 C119 C195 C153 C119 ;X ;	1.783204	A0A087WX K2	2
C*PSTHSEELHDCIQK	C35 ;X ;X ;	1.78068	P48507	2
LTVVDTPGYGDAINC*R	C146 C111 ;C71 C121 C146 C111 ;C71 C111 C71 C121 C111 C146 C111 C71 C111 C122 ;	1.7804225	Q15019	3
IATPFQVYSWTAPQAEHAMDC*VR	C333 C274 ;C333 C274 ;X ;	1.78029142 9	O75153	3
PSSC*C*SDPSKPGGNVEGATQSLAEQMR	C289 ;X ; X ;C289	1.7793825		2
LFFIQAC*R	C186 C271 C161 C219 C186 ;C186 C271 C161 C219 C186 ;X ;	1.77871	P55210	2
NIAQIAVVMGSC*TAGGAYVPAMADENIIVR	C216 ;C216 ;X ;	1.77772857 1	Q9HCC0	3
FIQQTYPSSGGEEQAQYC*R	C40 C40 ;C40 C40 ;X ;	1.777575	Q8WUM4	2
HLNEIDLFHC*IDPNDSK	C58 C58 C58 C62 C58 C58 C58 C62 C58 C58 C58 C62 ;C58 C58 C58 C62 ;C58 C58 C62 C58 C58 C62 ;	1.77606638 9	Q15185	3
EAVFPFQPGSVAEVC*ITFDQANLTVK	C89 C89 C89 C89 ;C89 C89 C89 C89 ;C89 C89 C89 C89 ;	1.77596333 3	P09382	3
MAAISESNINLC*GSHCGVSIGEDGPSQMALEDLAMFR	C413 ;X ;M410 C413 ; C421 M402	1.77514142 9	P29401	3
LDVGNFSWGSECC*TR	C72 ;C72 ;C72 ;	1.77503375	P62241	3
VNDILELYGILSVDPVLSILNNDERDASALLDPMEC*TDTAEEQR	C287 C287 ;C287 C287 ;X ;	1.77394875	Q9BTE3	3
MAGIFDVNTC*YGSPQSPQLIR	C353 ;X ; C468 M458 C468 M459 X ;M419 C467 M344 C428 M459	1.77362		2
LFTIHQIDAC*TNNLPK	C706 ;X ;X ;	1.77178	Q9HAU4	3
SEALGVGDVKLPC*EMDAQGPK	C196 C187 ;C196 C187 ;C196 C187 ;	1.771685	Q9UGI8	3
GWSGNSWGGISLGPDPGPC*GETYEDFDTR	C211 C211 C211 C211 ;X ;X ;	1.770766	P82675	2
MSDSADKPIDNDAEGVWSPDIEQSFQEALAIYPPC*GR	C53 C53 C38 C53 C144 C53 C53 C38 C53 C144 ;C53 C53 C38 C53 C144 C53 C53 C38 C53 C144 ;X ;	1.768834	P28347	2
GNEFEDYC*LK	C102 ;C102 ;X ;	1.76819666 7	P26196	2
ISAFGYLEC*SAK	C159 C159 C159 ;C159 C159 C159 ;C159 C159 C159 C159 C159 C159 ;	1.76800166 7	P08134	3
SGLTPNDIDVIELHDC*FSTNELLTYEALGLCPEGQGATLVDRGDNTYGGK	C307 ;C307 C307 ;C307 ;	1.76769619	P22307	3
C*IYNLLQSSSPAVK	C248 ;C248 ;X ;	1.767475	P53618	2

IADISQVYTQNAEMRPLGC*CMILIGIDEEQGPQVYK	C136 C136 ;C136 ;C117 C136 C57 C136 ;	1.7673225	P60900	3
C*PGESLINPGFK	C180 C180 ;C180 ;C180 ;	1.76713727 3	Q9BUH6	3
VVMALGDYMGASCHAC*IGGTNVR	C134 ; C134 ;M121 C134 M121	1.76662705 9	P60842	3
C*LYASVLTAQPR	C728 ;X ;X ;	1.764754	P13639	2
IINSYC*VFPR	C443 C363 C396 C363 C459 C487 C294 ;C363 C396 C443 C591 C363 C459 C487 C294 ;C363 C396 C363 C459 C487 C294 C443 ;	1.763415	Q9UJF2	3
VWCDGC*YDMVHYGHNSQLR	C30 C30 C30 ;X ;C30 C30 C30 ;	1.76146	I3L1R7	3
DQTAALLNSAGLGAADLFVLPANC*GSSDGCEELER	X ;X ;C152 ;	1.76097		2
GELQMWPELLPQLC*NLLNSEDYNTCEGAFGALQK	C132 C132 C132 C132 ;X ;C132 ;	1.76051	O14787	3
GELSGHFEDLLLAIVNC*VR	C207 ;X ;C207 C246 ;	1.75899	D6RA82	3
AQILVLTYPLIGNYGIPPEMDEFGLC*K	C73 C73 ;C73 C73 ;C73 C73 ;	1.75761	P27708	3
SSEC*MKDDPITLFFVALSPQGTAGGELFLDDGHTFNYQTR	X ;C822 C844 ;C822 C844 ;	1.757402		2
HELQANC*YEEVK	C122 C139 C177 C139 ;C122 C139 C177 C139 ;X ;	1.75656268 3	G3V1A4	3
VSVC*AETYNPDEEEEDTDPR	C101 C101 ;C101 C101 ;X ;	1.75634	P13861	2
LAEKEDWIVDNEGLTSLPCQFEQCIVC*SLQSLK	C627 C627 ;C627 ;C627 ;	1.7563375	Q96KP1	3
NLSFFLTPPC*AR	C492 C494 C492 ;C492 C494 C492 ;X ;	1.75624	P42224	3
YVDIAIPC*NNK	C163 C168 C163 ;C163 C168 C163 ;X ;	1.75608666 7	C9J9K3	3
YVFNLAEELVPMMEYVGIPEC*IK	C357 ;X ;M408 C295 M165 C357 ; C173 M349 C416 M287	1.75606714 3	J3KN59	3
LYDVC*PHVSDSGLFFDDSYGFYPGQVLIGPAK	C244 ;C29 C244 ;X ;	1.755945	Q9C0C9	2
ESLNASIVDAINQAADC*WGIR	C121 C167 C121 C167 C121 C167 ;C121 C167 ;C167 ;	1.75324090 9	A0A087WY B4	3
C*FQEMLEEEEEHEWFIPAR	C60 C60 C60 C60 ;C60 C60 C60 C60 ;C60 C60 ;	1.75209388 9	D6RA77	3
YAGLSTC*FR	C300 C300 ;C300 C300 ;X ;	1.75065333 3	P49591	2
IFPEVLAEQLISYGSC*QFPTLGFVVER	X ;C244 C149 C219 ;C244 C149 C219 C244 C149 C219 ;	1.74988333 3		2
C*PSANYFDCR	C154 C148 ;X ;X ;	1.74979029 4	P25786	3
VC*ALLSCTSHK	C299 ;C299 ;X ;	1.74881714 3	P15121	3
NPGVWLNTTQPLC*K	C183 C159 C215 C159 ;X ;X ;	1.74805	O95983	2
LSEAAC*EEDSASEGLGELFLDGLSTENPHGAR	C238 C238 ;C238 ;C238 C238 ;	1.74790842 1	O95801	3
SYIEGYVPSQADVAVFEAVSSPPPADLC*HALR	C50 C50 C50 C50 C50 C50 ;C50 C50 C50 C50 C50 C50 C50 C50 C50 ;	1.74736434 8	P24534	3
LVAFC*PFASSQVALENANAVSEGVHEDLR	C52 C52 C52 ;C52 C52 C52 ;C52 C52 ;	1.74694333 3	O00567	3

EC*ISIHVQGAGVQIGNACWELYCLEHGIQPDGQMPSDK	C4 C4 C4 C4 C4 C4 ;C4 C4 C4 C4 C4 C4 C4 C4 ; C4 C4 C4 C4 C4 C4 ;	1.746001765	P68363	3
STVLSLDWHPNPNVLLAAGSC*DFK	C162 C162 C115 C162 ;X ;C162 C162 C115 C162 ;	1.74562	O15143	2
MTEEEVEMLVAGHEDSNGC*INYEAFVR	C138 C139 ;X ;C102 C138 ;	1.745346667	P60660	2
VPAILMSSMC*ILLDHLDDGENYMMR	C320 ;C320 ;C320 ;	1.744711429	Q15021	3
EEC*PVFTPPGGETLDQVK	C55 C114 ;C55 C114 ;C55 C114 ;	1.744615556	A0A0U1RQD1	3
TTLG*GTLDYLPPEMIEGR	C290 C290 ;X ;X ;	1.744025	A3KFJ0	2
LLNLVYDVTPELVLDLITELGMIPC*SSVPVVL	C509 C530 ;C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 ;C509 C506 C529 C508 C530 C509 C506 C529 C508 C530 ;	1.743843077	Q9UI10	3
TNLSTVSDC*VHQVVELLQEQNIVPYTIK	C202 C202 C202 C202 ;C202 C202 ;	1.74367	O95340	3
SNTGGQAFQC*VFDHWQILPGDPFDNSSRPSQVVAET R	C812 C812 ;C812 ;C812 ;	1.743429	P13639	3
SLC*PFYGEDFYCEIPR	C26 C58 ;C26 C58 ;X ;	1.743225	Q14644	2
IAVYSC*PFDGMITETK	C244	1.743042222	P50990	3
DGTAGSHFMASPC*VGYSR	C267 ;X ;C267 ;	1.74226	Q9H488	2
TSGNVEDDLIIFPDDC*EFKR	C80 ;X ;X ;	1.741923333	Q16186	2
C*PIQLNEGVSFQDLDTAK	C179 ;X ;C179 ;	1.741031429	A6NDU8	2
ALADAQIPYSAVDQACVGYVFGDSTC*GQR	C71 C71 C71 C71 ;C71 C71 C71 C71 ;C71 C71 ;	1.7406325	P22307	3
GNFTLPEVAEC*FDEITYVELQKEEAQK	C648 C629 ;X ;C648 C629 C648 C629 ;	1.739862	Q00839	3
GC*WDSIHVVEVQEK	C147 C176 C147 C135 C173 C147 C176 C147 C135 C173 C147 C176 C147 ;C147 C176 C147 C135 C173 C147 C176 C147 C135 C173 C147 C176 C147 ;C147 C176 C147 C135 C173 ;	1.739842174	P47756	3
GTVLLADNVIC*PGAPDFLAHVR	C223 C223 ;C223 C173 ;C223 C173 C223 C173 ;	1.738914286	P21964	3
C*SSC*EPFPDGTNNLSR	C122 ; X ;C119 C122 ;C119	1.738625		2
AATMSAVEAATC*R	C266 C278 ;X ;X ;	1.73745	Q53H96	2
STFLSLMTSTASEAASYEFTLTC*IPGVIEYK	C99 C99 ;C99 C99 ;C99 C99 C99 ;	1.7368775	A8MZF9	3
SSSQAEATLGPSSSTSNALSWLDELLC*LGLADPAPNVPK	C324 C363 C396 ;C274 C324 C363 C324 C396 ;X ;	1.734755	Q9NZ52	2
TVEEIEACMAGC*DK	C482 C482 ;C441 C482 ;C441 C482 ;	1.733525	P12955	3
C*FIVGADNVGSK	C27 ;C27 C27 ;X ;	1.732812	P05388	3

DLTVCEPPKQC*SLPQDPAIVQSSLSGSSTSSFQSMGSY GPFGR	C80 C85 C85 C85 ;C80 C85 C85 C85 ;X ;	1.73216333 3	A0A140TA7 6	2
C*PDGGDNADSSNTALNMPVPMNTIAEAVIEMINR	C748 C758 C748 C758 ;X ;X ;	1.73170833 3	O15294	3
TGC*VDLTITNLLGAVAFMPEDITK	C391 C325 C325 C391 C325 C325 C391 C325 C325 ;C391 C325 C325 C391 C325 C325 C391 C325 C325 ;C391 C325 C325 C391 C325 C325 C391 C325 C325 ;	1.73154545 5	Q9Y679	3
NVVTIFSAPNYC*YR	C266 ;X ;X ;	1.73090333 3	P67775	2
EGLLLWC*QR	C154 C154 C154 C154 C173 ;X ;C173 C154 C154 C154 C154 C161 C161 ;	1.72996	P12814	2
NC*NDFQYESK	C112 ;C112 C99 ;X ;	1.726195	Q04917	2
HC*NLLGDELLECLSWR	C120 ;X ;C120 ;	1.72597333 3	A6NDU8	2
VGILDVDLC*GPSIPR	C54 ;X ;X ;	1.72479	Q9Y5Y2	3
ETNDDNYGPGPSLRPPNVAC*WR	C179 C177 C179 C177 C177 C177 C177 ;C179 C177 C179 C177 C177 C177 C177 ;X ;	1.72367666 7	E7EPN9	2
VANVIVDHSLQDC*VFSK	C49 C83 C83 C49 C49 C90 C49 C49 C90 ;X ;X ;	1.72304	J3KSB8	2
LDINLLDNVNC*LYHGEGAQQR	C34 C34 C34 C34 ;C34 C34 C34 ;C34 C34 ;	1.72116875	O14980	3
LNPPAQLPNSSEGLC*EFLEYVAESLEPPSPFELLEPTSG GFLR	C208 C182 ;X ;C208 C182 ;	1.721098	Q66K74	3
LNEALLEAC*VEPTDLLTTLNMLPVR	C312 C312 ;C312 ;C312 ;	1.72053333 3	Q96AD5	3
QAQC*TSYFIEPVQWMEALLGVMDGQLLCPK	C265 ;C265 ;C265 ;	1.7202375	Q9UNI6	3
GQNGDDSSAGGDFPPPAEVEPTPEAELLAQPC*HDSEA SK	C122 ;X ;C122 ;	1.7181425	O94992	3
SDQGVVEGPGGTGGSGSSPNDPVTNIC*QAADK	C150 C340 C340 ;C150 C340 C340 ;C150 C340 C340 ;	1.717215	A0A0G2JK R7	3
IC*DDELILIK	C357 C357 C357 C357 ;X ;C357 C357 ;	1.7162625	E7ERF2	3
GHSSDSNPAIC*R	C31 C31 C31 ;C31 C31 C31 ;X ;	1.71582666 7	Q5JTH9	2
DPCAAPNEGFC*SAGVQTEAGVADLTWVGER	C73 ;C73 ;X ;	1.71552	Q9BQA1	2
AC*TAQSLGNLLDMMYR	C65 C49 C87 C49 C87 ;X ;C65 C49 C87 C49 C87 ;	1.71512	Q16854	2
KLTAGEAC*AQGLVTEVFPDSTFQK	C282 C312 C277 ;X ;C282 C312 C277 ;	1.714312	A0A0C4DG A2	3
ILQDDIESLMPVIYPTVGLAC*SQYGHIFR	C120 C120 ;C120 C120 ;X ;	1.71397	P23368	2
LVTSPCC*IVTSTYGWTANMER	C598 C720 C598 C720 ;X ;C598 ;	1.71361166 7	P07900	2
TATC*HSSSSPIDAASAEPYGFR	C1814 ;C1814 ;C1814 ;	1.712628	P46821	3
C*CFLCMVCR	C33 C33 C33 ;C33 C33 C33 ;C33 C33 C33 ;	1.71186	F8VQR7	3
EIFTSLEYGVPESHAC*ALAWLDTQDR	C28 C28 ;C28 C28 ;C28 C28 ;	1.711836	Q8IZ83	3

	C193 C193 C141 C141 C211 C211 C211 C211 C211 C211 C211 C211 C558 C211 C558 C211 ;X ;C193 C193 C211 C211 C139 C139 C211 C211 C211 C211 C211 C211 C558 C211 C558 C211 ;	1.71168312 5	Q5JP53	3
TDETYCIDNEALYDIC*FR				
CPALYWLSGLTC*TEQNFISK	C27 C56 C27 C56 ;C27 C56 ;X ;	1.711415	X6RA14	3
DTC*YSPKPSVYLSTPSSASK	C540 ;C540 ;X ;	1.7112	Q9Y5K6	2
HDELADSLPC*AEGEFIFLR	C296 C220 C296 C220 ;C296 C220 ;X ;	1.71073285 7	Q9H0D6	3
GC*FSDLIDLIDNLGPAMMLSDR	C211 C515 C470 ;X ;X ;	1.70937	J3QLH0	2
HFLSDTGMAC*R	C119 C69 C119 C69 ;C119 C69 ;C119 C69 ;	1.70921571 4	Q5TFE4	3
LLYEALVDC*K	C175 ;X ;C16 C175 ;	1.70839555 6	Q7L2H7	3
FQSSAVMALQEASEAYLVGLFEDTNLC*AIHAK	C111 ;C111 C111 ;C111 ;	1.70674575 8	Q71DI3	3
DDKC*ANLFEALVGTLK	C39 ;X ;X ;	1.70636	Q9P1F3	2
NPLC*PLGQTVQSEFR	C115 ;C115 ;C115 ;	1.70329666 7	Q9Y5R8	3
DVIELTDDSFDKNVLDSEDVWMVEFYAPWCGHC*K	C245 M187 C190 ; C198 M179 C190 ;X ;M182 C241 M234 C193 M230	1.70287833 3	Q15084	2
DGSKPLLCHYMPDEETPLAVQAC*GLSPR	C251 ;C251 ;C251 ;	1.701735	P56589	3
SVFEGELSDTIPVHASIAGC*R	C56 C56 C56 ;C56 C56 C56 ;C56 ;	1.70088210 5	P56537	3
SSIEDAQC*PGLPDLIEENHVVNK	C696 C615 ;X ;C696 C615 ;	1.6994825	Q15398	2
LLQDYPITDVC*QILQK	C387 ;X ;X ;	1.6971	Q9NVG8	3
EHYC*LADLASLMDK	C49 C49 ;X ;C49 C49 ;	1.69689666 7	Q92552	2
AGSDGESIGNC*PFSQR	C35 ;C35 C35 ;C35 ;	1.69654545 5	Q9Y696	3
GPAVGIDLGTYSYC*VGVFQH GK	C17 C17 C17 ;C17 C17 C17 ;C17 C17 C17 ;	1.69653714 3	P11142	3
C*LSIMLAWEANPLICPVCTK	C122 C122 C122 C122 C122 C122 C122 C122 C122 ;X ;C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 C122 ;	1.69584	Q86UA6	3
IAEDLGGPYWVGQYDLLVLPPSFPYGGMENPC*LTFVTP TLLAGDK	C275 M271 C275 ;X ;X ;	1.69451	P09960	3
SLDQSQC*GITYK	C282 ;C282 ;X ;	1.69308333 3	Q9NVG8	2
FLEQQTLC*NNQVNDLTTALK	C218 C296 ;C218 C296 ;C218 C296 ;	1.692338	V9GY01	3
NNC*PFSADENYRPLAK	X ;C958 C957 C957 C957 ;C958 C957 C957 C957 ;	1.69197		2
ESGC*VLGLRPGAQESPVSWEPEGSK	C437 C369 C227 ;C437 C369 C227 ;C437 ;	1.690376	Q6ZUT6	3
DYVLNC*SILNPLLTLLTK	C208 ;C208 C115 ;X ;	1.69027	O60684	2

EFLESQEDYDPC*WSLQEK	C96 C43 C96 C22 ;X ;X ;	1.689021	Q8N6T3	3
C*GETAFIAPQCEMPIEWVCR	C81	1.6886788	P22234	3
VVLLGEFLHPC*EDDIVCK	C80 C80 C80 C80 ;C80 C80 ;C80 C80 ;	1.68846833 3	Q9NY12	3
LLQC*DPSSASQF	C185 ;C185 ;X ;	1.687435	P37235	3
ETTNIFSNC*GCVR	C354 C290 ;X ;X ;	1.68718	Q9UBB4	3
FIC*TTSIQNR	C20 ;C20 C20 ;C20 C20 ;	1.68683	P53396	3
IIAVSFPAGC*SEESYLHNLQEVTR	C25 C25 C128 ;X ;C25 C25 ;	1.68681	Q68CZ2	2
VQIEAAQC*PDVVVAQIDPK	C63 ;C63 C63 ;X ;	1.68634	O14893	2
LFPNSLDQDTMHGDSEYNIMFGPDIC*GPGTK	C137 ;X ;X ;	1.68533090 9	P27797	3
VQGGVPAGSDEYEDEC*PHLIALSSLNR	C449 C449 ;X ;C449 C449 ;	1.685025	Q9BVS4	2
ITEFC*HR	C343 ;X ;X ;	1.68451	P07237	2
ADPDGPEAQAEAC*SGER	C18 C18 C18 C18 ;C18 C18 C18 C18 ;X ;	1.68443090 9	D6RCB9	2
INISEGNC*PER	C54 C54 C54 C54 C54 C54 C54 C54 ;C54 C54 C54 C54 ;X ;	1.68394285 7	Q15365	2
C*SDSDGLAPPQHLIR	C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182 ;C182 C50 C23 C143 C143 C143 C23 C23 C143 C50 C171 C182 C182 C50 C50 C182 ;X ;	1.68212416 7	P04637	3
ENEITGALLPC*LDESR	C80 C80 ;C80 C80 C80 ;X ;	1.68184666 7	Q9Y3Z3	2
TTSSANNPNLMYQDEC*DR	C507 C507 C586 C584 C505 ;C507 C507 C586 C584 C505 ;X ;	1.6815	Q92841	2
C*EMPELVQHK	C1500 C1500 ;X ;X ;	1.68105333 3	Q14008	2
HEFSVDMTC*GGCAEAVSR	C12 ;X ;C12 ;	1.67989	O00244	3
IIATAVC*HTDAYTLGADPEGCFPVILGHEGAGIVESVGE GVTK	C45 ;X ;C45 ;	1.678165	P11766	2
C*ATQLVWER	C269 ;C269 ;C43 C269 ;	1.67773333 3	Q9GZT4	3
C*QNEQLQTAVTQQVSQIQQHK	C678 ;C678 ;C678 ;	1.67771	O60763	3
AGYDGESIGNC*PFSQR	C487 C469 ;C487 C469 ;C487 C469 ;	1.67670666 7	Q96NY7	3
GC*QDFGWDFPCFPDGYEQTYAEMPK	C129 C146 C105 ;X ;X ;	1.676093	Q9BY32	3
VIEINPYLLGTMAGGAADC*SFWER	C111 C111 C60 C111 C111 C60 C111 C111 C60 ;X ;C111 ;	1.67595	P28074	2
LLSALC*PEEPPVHSSAQIVSK	C334 C334 C334 ;C334 C334 C334 C334 C334 C334 ;	1.67463555 6	Q9NR50	3
LLPAITILGC*R	C389 C442 C389 C442 ;C389 C442 C389 C442 ;C389 C442 ;	1.674098	Q96IJ6	3
DLNYC*FSGMSDHR	C267 C267 C267 C267 C267 C267 ;C267 C267 C267 C267 C267 C267	1.67361956 5	G8JLB6	3

	C267 C267 ;C267 C267 C267 C267 ;			
GAPLLVCGSPFGAFCDIFLNTLSC*GVLSNVAGPLLLTD AR	X ;C240 C240 ;C240 C240 ;	1.672085		2
IAAYLQSDQFC*K	C208 ;C208 ;X ;	1.67095	P21266	3
IVPVDIYIPGC*PPTAEALLYGILQLQR	X ;C183 ;C183 ;	1.670375		2
GLESTTLADKDGIEYC*K	C167 ;C167 ;X ;	1.66969166 7	P21291	2
VILPGMTACIECTLELYPPQVNFPMC*TIASMPR	C237 C223 ;X ;C237 C223 ;	1.66834588 2	Q8TBC4	3
VVVIKPTC*PY	C23 C23 ;X ;C23 ;	1.668229	P35754	3
FMSVLDTNKDC*EVDFVEYVR	C68 ;C68 C68 ;X ;	1.667605	P33764	2
EC*PSDECGAGVFMASHFDR	C121 ;C121 C121 C121 ;C121 ;	1.66719083 3	P62979	3
GTELDGCIETDSGVDDDMAC*HKIPVEADFLYAYSTAPG YYSWR	X ;C184 ;X ;	1.66690333 3		2
AAAENLPVPAELPIEDLC*SLTSQSLPIELTSVPESTEDIL LK	C65 ;X ;C65 ;	1.66534818 2	Q96JB2	3
ITSEQAMQDPYFLEDPLPTSDVFAGC*QIPYPK	C349 C349 ;X ;X ;	1.664465	P49336	2
IEEDVVVTDSGIELLTC*VPR	C467 C467 ;C426 C467 C426 C467 C426 C467 ;C426 C467 C426 C467 C426 C467 ;	1.664398	P12955	3
RVDDFEAGAAAGAAPGEEDLC*AAFNVICDNVVK	C98 ;X ;C98 ;	1.66432214 3	Q13158	3
DIEVGEELTIC*YLDMLMTSEER	C238 C179 C238 C179 ;X ;X ;	1.6640125	Q9H7B4	3
LWNEWC*R	C106 C106 ;C106 C106 ;C106 C106 ;	1.66283666 7	O95456	3
GVPGAIVNVSSQC*SQR	C138 ;C138 C138 ;C138 ;	1.66258625	Q7Z4W1	3
SMKAC*VSETLSMLGQHFGQLLELALTR	X ;X ;C168	1.662405		2
FAC*NGTVIEHPEYGEVIQLQGDQR	C69 C69 C17 C69 ;C69 C69 C17 C69 ;X ;	1.658025	K7EM18	2
AIVDALPPPCESAC*TVPTDVKWFHHQK	C274 ;X ;X ;	1.656107	Q15181	3
ELDLSNNC*LG DAGILQLVESVR	C409 C409 C409 C409 ;C409 C409 ;C409 ;	1.65594526 3	P13489	3
QTISNAC*GTIGLIHAIANNKDK	C95 C59 C95 ;C95 C59 C95 ;X ;	1.65540166 7	P15374	2
VVNIEGVDSNMCC*GTHVSNLSDLQVIK	C323 C105 C384 C210 C293 ;C323 C384 C210 C293 ;C323 C384 C210 C293 ;	1.654225	Q9BTE6	3
ELYGTWEMLC*GNEVQILSNLMEELGPELK	C230 C217 C230 C217 C230 C217 ;C230 C217 ;C230 C217 C230 C217 ;	1.65411769 2	Q96TA1	3
SGQGAFGNMC*R	C96 C96 ;C96 ;X ;	1.65364583 3	P36578	2
TSSVSNPQDSVSGPC*SR	C106 C108 ;C106 C108 ;X ;	1.653468	F5GZ78	2
HEGVFIC*R	C99 ;C99 C75 C14 C37 ;C99 C75 C14 C37 ;	1.653362	P22087	3
EQLYSTILSHQC*QR	C116 C113 ;C116 C113 ;C116 C113 ;	1.65242	Q9Y4H4	3
VPFC*PMVGSEVYSTEIK	C94 ;X ;C94 C94 ;	1.65238571 4	Q9Y265	3
SDDPFIQQVALLTSLNNANYSC*NQETIR	C419 C419 ;C419 C419 ;C419 ;	1.65204333 3	Q7L311	3
HTEVPTGTC*PVDPFEAQWAALENK	C467 C600 C611 ;X ;C467 C600 C611 ;	1.65180333 3	G3V3Z8	2

HKQEDSLFEEMLQVANAIQPDNIVYVMDASIGQAC*EAQAK	C180 C229 C165 ;C180 C229 C165 ;C180 C229 C165 C180 C229 C165 ;	1.65075125	P61011	3
LINLPEDYSSLINQASNFSC*PK	C1619 C1619 ;C1619 C1619 ;X ;	1.65004	Q8IWW8	2
VDEFPLC*GHMVSDEYEQLSSEALEAAR	C49 ;X ;X ;	1.65	P27635	3
TLEEFQDVYLVMEMLDANLC*QVIHMELDHER	C116 C116 C116 C116 C116 ;X ;C116 C116 C116 C116 ;	1.646111818	P45984	3
EIVHIQAGQC*GNQIGTK	C12 ;C12 ;C12 ;	1.645201	Q9BUF5	3
DC*FLELAPDFVGDILWEHLEILQK	C112 ;C112 ;C112 C112 C112 C112 ;	1.645095714	P14921	3
SSLQYSSPAPDGC*GDQTLGDLTTPTR	C646 ;C646 ;C646 ;	1.64475	P22102	3
GLDYEGGGC*R	C691 ;C691 C217 ;X ;	1.644155	O60568	2
DAVLPEQSPGDFDFNEFFNLDKVPCL*LASMIEDVLGEGS VSASR	C318 C155 C318 C318 ;X ;X ;	1.642558333	Q9NRA8	3
GIGMNEPLVDC*EGYPR	C59 M52 C59 ; C59 ;M52	1.64073087	O00233	3
DVQIGDIVTVGEC*RPLSK	C131 C131 C131 ;C131 C131 C131 ;C131 ;	1.64066	P62280	3
HSSSC*LPLPEFVDNTQVPSYCLNAR	X ;C89 C89 C89 C89 C89 C89 C89 C89 ;C89 C89 ;	1.64062		2
QNSDFLC*QMDLLQEFYETTLEALK	C130 ;X ;X ;	1.639435	P61201	3
VGSFGSPPGLSSTYTGGPLGNEIASGNNGAAAGDDED GQNLWSC*ILSEVSTR	C51 C51 ;C51 ;C51 ;	1.637705	Q9Y6G9	3
LYQVISTPSDIFMMEYVSGGELFDYIC*K	C117 C117 ;C117 C117 ;C117 C117 ;	1.637653333	Q13131	3
DDFAYCLNCFD*DLYAK	C214 C324 C330 ;X ;C214 C324 C330 ;	1.63685	Q14192	3
QIHEGASLPFFEVFDAPLHVC*EQR	C165 ;C165 ;C165 ;	1.634245556	O43252	3
AFQHLSEAVQAAEEEAQPPSWSC*GPAAGVIDAYMTLADFCQQLR	C3403 ;X ;C3403 ;	1.63399	P78527	3
DYEEIGPSIC*R	C408 ;C408 ;X ;	1.63247	P61158	2
INFYC*PGSALGR	C574 ;C574 ;X ;	1.63241	Q9Y5B9	2
PGHLQEGFGC*VVTNR	C11 C11 C11 C11 ;X ;C11 C11 C11 C11 ;	1.631510333	Q8NC51	3
VFDPSC*GLPYWNADTDLVSWLSPHPNSVVTK	C60 C60 C60 C60 C60 C49 C60 C60 ;X ;X ;	1.629741	O60828	3
FALNHPELVEGLVLINVDPC*AK	C166 C154 C166 C166 C154 C166 ;C166 C154 C166 C166 C154 C166 C166 C154 C166 ;	1.629377917	Q9UGV2	3
VMGIVENMSGFTCPHC*TECTSVFSR	C199 ;X ;X ;	1.62896	Q9Y5Y2	2
THLC*DVEIPGQGPMCESNSTMPGPSLESPVSTPAGK	C165 C150 C182 C165 C129 ;X ;X ;	1.628345833	Q86X76	3
ILYLDSSIECFPTVPGC*PGAWDVDSNPQR	C611 C621 ;C611 C621 ;X ;	1.62826375	Q9BSJ8	3
LFQPC*FLGMESCGIHETTFNSIMK	C965 C965 C965 ;X ;X ;	1.628248571	Q6S8J3	2
VILALGDYMGATCHAC*IGGTNVR	C136 C135 C135 ;C136 C135 C135 ;C136 C135 C135 ;	1.62765	Q14240	3
C*ASQAGMTAYGTR	C173 C173 C173 C173 ;C173 ;X ;	1.626301429	Q15417	2
VSDTVVEPYNATLSIHQLVENTDETYC*IDNEALYDICFR	C548 C201 C548 C201 C548 C201 ;C548 C201 C129 ;C548 C201 C548 C201 ;	1.626175876	A0A0B4J269	3

C*HDYYTTEFLYNLYSSEGK	C630 C630 ;C630 C630 ;C630 C630 ;	1.62615	P17858	3
GSLLLDGAGAGGAGSRPC*SNR	C158 ;C158 ;X ;	1.625922	Q96IF1	3
SEHGPIFFPESGQPEC*LK	C324 C295 C247 C323 ;X ;X ;	1.62513333 3	Q96ME7	2
TVYGGGC*SEMLMAHAVTQLANR	C412 ;C412 ;C412 ;	1.624466	P78371	3
AFGELC*PNTAPLPQLVTEALQTGTTEWFHLK	C448 C448 ;C448 C448 ;X ;	1.623745	Q70J99	2
NC*DKGQSFFIDAPDSPATLAYR	C277 C266 ;X ;X ;	1.6230875	P53384	3
GGGGGPC*GFQPASR	C17 ;C17 ;X ;	1.62296666 7	Q96QR8	2
ILVALC*GGN	C343 ;X ;X ;	1.62271	P04083	3
VSC*AGQMLEVQPGLYFGGAAVAEPDHLR	C23	1.61956470 6	Q9UNI6	3
TLQNTMINLGLQNAC*DEAIYQLGLDIEELEIEEDAGLGN GGLGR	C109 C109 ;C109 C109 C109 C109 ;C109 C109 C109 C109 ;	1.61921875	P06737	3
DSYGMSPC*NTAVVPQGSVEALNSPHSESFVSPEAVA EPPQPTAVPLELAK	C198 C181 ;X ;X ;	1.61920666 7	E7EVA0	2
C*MPAPEEIVEELPASK	C3013 C3014 ;X ;X ;	1.61888	AOA087WV 66	2
AHIAQLC*EK	C617 C621 C617 C617 ;C617 C621 C617 ;X ;	1.617655	Q00610	2
IC*DPYAWLEDPDSEQTK	C25 ;X ;C25 ;	1.6169775	P48147	2
GMLLGVFDGHAGC*ACSQAVSER	C174 C149 C174 C149 ;C174 C149 C174 C149 ;C174 C149 C149 ;	1.61598375	Q9P0J1	3
IPDWC*SLNNPPLEMMFDVGK	C388 ;C388 ;X ;	1.61577909 1	Q9NZ32	3
HC*GYLALVSALACGADWVFLPESPPEEGWEEQMCVK	X ;C221 ;X ;	1.61476666 7		2
C*PFVENTWK	C259 C257 ;X ;X ;	1.61442333 3	Q5JPI3	2
KDDYEYC*MSEYLR	C40 ;C40 C40 C40 C40 ;C40 ;	1.61305	P53611	3
LMGLLSDPELGPAAADGFSLMSDC*TDVLTR	C848 C869 C848 C869 C848 C869 ;C848 C869 C848 C869 C848 C869 ;C848 C869 C848 C869 ;	1.60972692 3	Q96T76	3
YLLQYQEPIPCQLVTALC*DIK	C115 C115 C115 C115 C84 C91 ;C115 C115 C115 C115 C115 ;X ;	1.6094	P25789	2
TVYFAEEVQC*EGNSFHK	C25 C25 ;C25 ;X ;	1.608654	P21291	2
SRPNASGGAAC*SGPGPEPAVFCPEVVK	C108 ;C108 C108 ;C108 C108 ;	1.60763777 8	Q6L8Q7	3
YVEPIEDVPC*GNIVGLVGVDQFLVK	C466 C466 C466 C466 ;C466 ;C466 ;	1.60762083 3	P13639	3
SDLYSSC*DR	C338 ;X ;X ;	1.60470333 3	Q96E39	2
NMVHPNVIC*DGCNGPVVGTTR	C128 ;X ;X ;	1.60331666 7	Q13501	2
SQC*TPLFMNAYTMR	C97 ;X ;X ;	1.60227666 7	Q96GX9	3
VVMALGDYMGASC*HACIGGTNVR	C131 C131 C131 ;C131 ;C131 ;	1.60216	P60842	3
DVSSLFPDVVNC*MQTDNLELKK	C57 C57 C57 ;X ;X ;	1.6017975	P63010	3
TGAAC*LPFYSAAGSIPSGVSGR	C29 ;X ;C29 ;	1.60004	Q12849	2
MEAAGFTISGASHPIC*PVMLGDAR	C375 C349 ;C375 C349 ;C375 C349 ;	1.59989333 3	O75600	3

NC*IVLIDSTPYR	C100 C100 C100 ;C100 C100 ;C100 C100 ;	1.59984473 7	P62241	3
FTDDTFC*EACK	C68 ;C68 ;X ;	1.59898	Q6IQ22	2
SLEEFQDVYIVMELMDANLC*QVIQMELDHER	X ;X ;C116 C116 C116 C116 ;	1.59824333 3		2
ISLGLPVGAVINC*ADNTGAK	C28 ;C28 C28 C32 C28 C28 C28 C32 C28 ;C28 C28 C32 C28 ;	1.59749666 7	P62829	3
DEFSYQEMIANLPLC*SHPNPR	X ;C89 ;C89 ;	1.596695		2
NEAESC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C57 ;X ;X ;	1.59598625	M0QYM7	2
IEC*SDNGDGTCSVSYLPTKPGYFVNILFEEVHIPGSPF K	C1087 C1087 ;X ;C1087 C1087 ;	1.595814	O75369	3
VGVGPGSVC*TTR	C186 ;X ;X ;	1.59535	P36959	2
ASC*LYGQLPK	C48 C48 ;X ;C48 ;	1.59469	P09211	2
IHESSPLDLASEEPERLPC*LQR	X ;C153 C153 ;C153 C153 ;	1.59442666 7		2
AWAWC*PWQSNVLTGGGTSR	C364 ;X ;C364 ;	1.59429	Q12834	2
MLSC*AGADR	C105 C105 ;X ;X ;	1.59385666 7	P27635	2
SWC*PDC*VQAEPVVR	C46 ;X ;X ;C43	1.593405	Q9BRA2	2
AGSPTLLNC*LMYK	C715 ;X ;C715 ;	1.593	Q8TCJ2	2
HSVTGYGDC*AVGAR	C270 ;C270 ;X ;	1.59252	Q96IF1	2
C*KHFELGGDK	C88 C88 C88 C88 C124 ;C88 C88 C88 C88 C124 ;X ;	1.5916875	H7BZ11	2
EC*SNPSNLELYTQAILDMTYFEENKLVDDEDFPEDSSSQ K	C57 ;C57 C57 C57 ;X ;	1.59151909 1	A6NDU8	3
AWVWNTHADFADEC*PKPELLAIR	C209 C82 C132 C132 C132 C82 ;C209 C82 C132 C132 C132 C82 ;C209 C82 C132 C132 C132 C82 ;	1.59067909 1	F6WQW2	3
EANTLNLAPYDACWNAC*R	C285 C285 C285 ;X ;C285 C285 C285 ;	1.589426	Q9NR50	2
DSAQC*AAIAER	C376 ;C347 C376 ;X ;	1.588685	Q96RS6	2
VLLSICSLLC*DPNPDDPLVPEIAR	C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;C82 C112 C82 C111 C111 C111 C82 C111 C113 C105 ;	1.58820562 5	D6RFM0	3
LVEALC*AAGHR	C31 ;C31 ;C31 ;	1.587815	P23919	3
NSFYMGTC*QDEPEQLDDWNR	C1907 C771 C1893 C1891 C1907 C771 C1893 C1891 ;X ;C1907 C771 C1893 C1891 ;	1.58758833 3	Q14980	2
AIC*TEAGLMALR	C399 C399 ;X ;C326 C399 ;	1.58669357 1	P62191	3
C*MPTFQFFK	C73	1.58654888 9	P10599	3
IC*FTVWDVGGQDR	C35 C62 ;X ;X ;	1.58341461 5	C9JAK5	3
LPPIPYNAPC*FNNAEYESFLR	C52 ;C52 ;C52 ;	1.58315	P83369	3
GTLSMLQC*NVFPGLPPDFLDSEVNLFLVPFMDSEAESE NPPR	C411 ;X ;X ;	1.58214434 8	Q9H0W8	3
AGAVAVPTDTLYGLACAASC*SAALR	C99 ;X ;C99 ;	1.57958272 7	Q86U90	3

EADQKEQFSQGSNSNC*LETSLAEIFPLGK	C102 C161 C102 C161 ;X ;C102 C161 ;	1.57948444 4	A0A0U1RQ D1	3
SSPSIIC*MPK	C175 C175 C175 C166 ;X ;C175 C175 C175 C166 ;	1.57819	Q9NZN8	2
IIVFSAC*R	C89 C91 ;C89 C91 C91 ;C91 ;	1.577864	H0YE29	3
INDALSC*EYECR	C216 C216 ;C216 C216 ;X ;	1.577205	Q52LJ0	2
GEDVYIVQSGC*GEINDNLMELLIMINACK	C60	1.576745	P60891	2
TPC*NAGTFSQPEK	C129 C129 C129 C129 ;C129 C129 C129 ;X ;	1.57607	J3QT28	2
ADIIHAC*DIVEDAAIAYGYNNIQMTLPK	C362 C362 ;C263 C362 C263 C362 C263 C362 ;C263 C362 C263 C362 ;	1.5754075	Q9NSD9	3
LGTLAPFC*CPWEQLTQDWESR	C705 C705 ;X ;C705 C705 ;	1.57471166 7	Q99575	3
SWMEGLTLQDYSEHC*K	C238 C238 ;X ;C238 ;	1.57392	O00487	3
IIDLAEAEDIEDIQEITVLSQC*DSSYVTK	C77 C77 C77 C77 ;C77 C77 C77 C77 C77 C77 C77 C77 ;C77 C77 C77 C77 ;	1.573785	Q9P289	3
C*ESAFLSK	C36 C36 C36 ;X ;X ;	1.57286	C9JXB8	2
SGLAYC*PNDYHQLFSPR	C204 C199 C179 ;C204 C199 C179 ;X ;	1.57137	O60711	3
VSLEEIYSGC*TK	C175 C79 C112 C79 C79 C79 C179 C79 ;C175 C79 C112 C79 C79 C79 C179 C79 ;C175 C79 C112 C79 C79 C79 C179 C79 ;	1.56916333 3	Q9UDY4	3
ADVSFVLFDC*NNEICIER	C122 ;C122 C73 ;C122 C122 ;	1.56901555 6	P30085	3
AAEEEEEEEEVDLAC*TPTDVR	C285 C285 ;C285 ;X ;	1.568235	P24385	2
VDDFEAGAAAGAAPGEEDLC*AAFNVICDNVGDWR	C98 ;C98 ;X ;	1.56818	Q13158	2
C*LPEIQIGFDRDPDPTLLYLLQQK	C126 C126 C116 C126 C126 C116 ;C126 C126 C116 ;X ;	1.567204	Q96F24	3
DSMC*NEFSQIFQLCQFVMENSQNAPLVHATLETLLR	C199 ;C199 ;C199 ;	1.56670666 7	O14980	3
EPFDLGEPEQSNGGFPC*TTAPK	C213 C277 C229 ;C213 C277 C229 ;C213 C277 C229 ;	1.56664875	Q99961	3
FPIC*NPTPYR	C393 ;C393 ;X ;	1.56621666 7	Q8NC60	2
SHSSDFPC*SDFSNFTFWR	C869 C905 C863 C948 C889 C899 ;C869 C905 C863 C948 C889 C899 C869 C905 C863 C948 C889 C899 ;C869 C905 C863 C948 C889 C899 C869 C905 C863 C948 C889 C899 ;	1.56463333 3	Q14693	3
KPWFLTNEVEEC*ENYFSK	C99 C117 ;X ;C117 ;	1.56456	E7EM93	2
GC*STVLSPEGSAQFAAQIFGLSNHLVWSK	C374 ;C374 C374 C374 C374 ;C374 ;	1.56425833 3	P22234	3
NEDEEGYVPTSYVEVC*LDK	C604 C543 C556 C609 C543 C604 C580 C604 C543 C556 C609 C543 C604 C580 ;C604 C543 C556 C609 C543 C604 C580	1.56250285 7	Q96RU3	3

	;C604 C543 C556 C609 C543 C604 C580 ;			
VQYPQSQAC*K	C633 ;C633 ;X ;	1.56065	Q14204	2
LPTPMD*PSAIYQLMMQCWQQR	C842 C842 C842 ;C842 ;C842 ;	1.55516285 7	P29317	3
NSPLPNC*TYATR	C275 C340 C350 ;C275 C340 C350 ;X ;	1.5550275	Q5JTD0	2
DEFTNTC*PSDKEVEIAYSVDVAK	C234 C234 C234 ;C234 ;C234 ;	1.55368	Q9Y696	3
KC*EPIVMTVPR	C345 ;C345 ;X ;	1.55328	Q9BR76	2
IGFPETEEEELEEIASENSDC*IFPSAPDVK	C340 C353 ;X ;C340 C353 ;	1.552581	Q9Y3F4	3
EDPTVSALLTSEKDWQGFLELYLQNSPEAC*DYGL	C237 C237 C237 ;C237 C237 C237 ;C209 C237 C209 C237 ;	1.54920058 8	P78417	3
FQSSAVMALQEACEAYLVGLFEDTNLC*AIHAK	C111 ;X ;C111 ;	1.54882428 6	P68431	3
LATDLLSLMPSLTSGEVAHC*AK	C335 ;X ;C335 ;	1.547885	Q969Z0	2
C*ATSKPAFFAEK	C270 ;C270 ;X ;	1.54775	P04083	3
NSPSLFPCAPLC*ER	X ;C146 ;C146 ;	1.5471375		2
SSGEIVYC*GQVFEK	C35 C35 ;C64 C64 C35 C35 ;C64 C64 C35 C35 ;	1.545902	M0R3D6	3
IIDINYYPVPEAC*LSNKR	C492 C492 ;C492 ;C492 ;	1.5458375	P23921	3
GC*GQINYAYFDTPAVSAADLSYVSDQNGGVPDPNPPP PQTHR	X ;C204 ;X ;	1.545535		2
YGAVDPLLALLAVPDMSSLAC*GYLR	C223 C223 C223 C223 ;C223 C223 C223 ;C223 C223 ;	1.54471935 5	P52292	3
AYSFAMGC*WPK	C152 C170 C167 C285 C76 ;C152 C170 C167 C285 C76 ;X ;	1.54419	H0Y4B0	2
VGMGSGSIC*ITQEVLACGRPQATAVYK	C331 ;C331 ;C331 ;	1.54408916 7	P12268	3
FEQSDLEAFYNVITVC*GTNEVR	C308 C306 C308 C306 C308 C306 C308 C306 ;C308 C306 C308 C306 C308 C306 ;X ;	1.543952	Q5JPI3	3
FALAC*NASDK	C171 ;C171 ;X ;	1.5436325	P35250	3
RDPLHEELLGQGC*VFQER	C497 C329 C217 ;X ;X ;	1.54348	Q9UL12	2
NVQLLSQFVSPFTGC*YGR	C90 ;C90 C90 ;C90 ;	1.54172	Q9Y3D5	3
LCLNIC*VGESGDR	C24 C25 C23 ;X ;X ;	1.53989	P62913	2
LDQEDALLGSYPVDDGC*R	C83 ;X ;C83 ;	1.539004	Q99426	3
LANLAATIC*SWEDDVNHSFAK	C210 C210 C210 C210 ;C210 C210 ;C210 C210 ;	1.5378425	Q9NQW6	3
ENC*PVPGKPGEVAAR	C206 ;C206 ;X ;	1.53532666 7	P04183	2
SFFDNISC*DDNR	C311 C375 C334 C375 ;C311 C375 C334 C375 ;X ;	1.5346	A0A140TA7 6	2
LTPGCEAEAEAEIC*FFVQQFTDMEHNR	C2369 ;X ;X ;	1.53282	P49327	3
AGDELAYNSSSAC*ASSR	C362 C239 ;C362 C239 ;X ;	1.53280285 7	Q86Y37	2
QFVDWC*PTGFK	C347 C347 C347 C347 C347 C371 C281 C354 C314 ;X ;X ;	1.53168103 4	P68363	3
NVPHEDIC*EDSDIDGDYR	C57 ;C57 C57 ;X ;	1.53066333 3	O00629	2

NYLPAINGIVFLVDC*ADHER	C102 ;C102 C102 C102 C34 C34 ;C102 C102 C102 ;	1.530536	D6RDB2	3
YKDEDGLITIFDSSDLSFAIQC*SR	X ;X ;C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 C80 ;	1.53024		2
MTSLPLDTQC*GDYYSALYVPTQNVTPNTVNNQPGAQ QLYSR	C87 C118 C87 ;X ;X ;	1.529025	O95487	2
VGSGVQHTGEPVEELALSHC*GR	C306 C145 C88 ;C306 C145 C88 ;X ;	1.5268825	Q9H6Y2	3
LPQQSYNFDPTDC*DESVDPFK	C2374 C2329 C2378 C2374 ;C452 C78 C2329 C2374 C2378 C520 C452 C2374 C78 C452 C452 C113 ;X ;	1.52629	O95359	2
AILFSQPLQITDQGGC*IAPVELR	C716 ;C716 ;C716 ;	1.52587	Q8NBF2	3
STFFNVLTNSQASAENFPFC*TIDPNESR	C55 C75 ;C55 C75 ;C55 C75 ;	1.5248635	Q9NTK5	3
SLPDC*TPHPNSISIDAGPR	C197 C42 C736 C733 C29 ;C197 C42 C736 C733 C29 ;C197 C42 C29 C736 C733 C29 C29 ;	1.5240675	Q9Y2H0	3
FLGPEIFFHPEFANPDFTQPISEVVDEVIQNC*PIDVR	X ;C307 C307 ;X ;	1.523804		2
VTFSC*AAGFGQR	C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;C1245 C1113 C1252 C1230 C1227 C1210 C1118 ;	1.52159875	Q14203	3
ETIGVGSYSEC*KR	C416 C421 C441 C432 C340 ;X ;X ;	1.52012	Q15418	2
TDSC*DVNDVCQQVVELLQER	C207 ;C207 ;C207 ;	1.5199875	O43252	3
MYGISLC*QAILDETKGDYEK	C324 C324 ;C324 ;C324 ;	1.51998112 7	P04083	3
VVNIIEGVDSNMC*CGTHVSNLSDLQVIK	C322 C104 C383 C209 C292 ;X ;X ;	1.51996	Q9BTE6	3
VFDQYLNFILEDDMFVLC*NQNK	C164 ;C164 ;X ;	1.517575	Q8WVM8	2
EESSSSDEDDRGMADFGAMGC*VDIMPLDVALENLNL K	C352 ;C352 ;X ;	1.51750666 7	Q9P0J7	2
LVDPLGEMPLAPSWEHATC*LANAEEQDMQR	C93 C121 C93 ;X ;X ;	1.5172025	O95394	2
ILQMEEYIQQLC*EDIQLKPDVVITEK	C279 C241 C234 ;C279 C241 C234 ;X ;	1.51696	P49368	2
YIETSELC*GGAR	C361 C374 C374 C374 C361 C361 C361 C361 C158 ;X ;X ;	1.51662	O00429	3
LALDCSGQQVAVDLFLLSGQYSDLASLGC*ISR	C704 C704 C704 ;C704 C704 C704 ;C704 C704 ;	1.51584470 6	O95486	3
VQILPEC*VLPSTMSAVQLESLNK	C188 C187 ;X ;C188 C187 C184 C184 ;	1.51475	Q96SW2	3
AC*ANPAAGSVILLENLR	C80 C108 ;C80 C108 ;C80 C108 ;	1.51437916 7	P00558	3
DQVAQLDDIVDISDEISPSVDDLALSIYPPMC*HLTVR	C300 C172 C300 C172 C300 C172 C300 C172 ;X ;X ;	1.51309041 7	O95273	3
EGILNDDIYC*PPETAVLLASYAVQSK	C117 C117 C117 ;C117 ;C117 ;	1.51196428 6	P26038	3
GEDVYIIQSGC*GEINDNLMELLIMINACK	C60 C60 C60 C60 ;C60 C60 ;C60 C60 ;	1.510488	P11908	3
TVEIC*PFSFDSR	C536 C572 ;C536 C572 ;C536 C572 ;	1.509526	Q9ULW0	3

C*MQLTDFILK	C54 C54 ;X ;C54 C54 ;	1.509234	E7EPB3	3
STC*SCPDLQPNGQDLGENSR	C60 C60 ;X ;X ;	1.50881	B1AKJ5	2
PC*GEDWLSHPLGIVQGFFAQNGVNPDEK	C3 C3 C3 C3 ;C3 C3 ;C3 C3 ;	1.50827	Q9BTE3	3
LPLC*SLPGEPNGPDQQLQR	C75 ;X ;X ;	1.50734714 3	Q96GX2	3
TYLLDGSC*MVEESGTLESQLEATK	C2213 C2238 C2233 C2218 ;X ;X ;	1.50552	Q13813	3
IC*GDIHQYTDLLR	C61 ;C61 ;X ;	1.50538	P62140	2
SQQTSLSEQIDGSALSC*FSTHQNNLLNVFADQPNK	C213 C213 ;C213 C213 ;X ;	1.5049	Q96FJ0	2
GLGC*QTLGPHNTPPPSLDMFAEELAELEELETPTPTQR	C234 ;X ;X ;	1.50418	O95400	3
LVVVDFSATWC*GPCK	C32 ;X ;C32 C32 ;	1.50245271 2	P10599	3
LC*AAAASILGKPADR	X ;C24 C38 C24 C24 C24 ;C24 C38 C24 C24 C24 ;	1.5018		2
TDVC*VFAAQEDLETMQAFAQVFNK	C100 C128 C96 C100 C128 C96 ;X ;C100 C128 C96 C100 C128 C96 ;	1.50140285 7	Q7L1Q6	2
FDAFIC*YCPSDIQFVQEMIR	C166 C145 C179 C166 C178 C179 ;X ;X ;	1.50091	Q99836	2
QAQYLGMSC*DGPFKPDHYR	C393 C421 ;X ;C393 C421 ;	1.50038	P23526	2
FC*AFGGNPPVTGPR	C152 C150 ;C152 C150 ;C152 C150 ;	1.50016375	O15446	3
C*WIFSCLVNMR	C73 ;C73 ;X ;	1.49912	Q13867	2
SGVVP*GTPWQWYQTLVEEVFIEVQVPPGTR	X ;C14 ;C14 ;	1.498735		2
VQTDAFVSNELDDPDDLQC*K	C465 C486 ;X ;C465 C462 C485 C464 C486 ;	1.49797666 7	Q9UI10	3
SWC*PDCVQAEPVVR	C43 ;C43 C43 ;C43 ;	1.4968	Q9BRA2	3
DFQDYMEPEEGC*QGSPQR	C191 ;C191 C152 ;X ;	1.49384666 7	O43237	2
QEPLGSDSEGVNC*LAYDEAIMAQQDR	C23	1.49375133 3	Q96FW1	3
YAEYFLRPMLQYVC*DNSPEVR	C917 C915 C933 ;C855 C915 C933 C917 ;C915 C933 C917 ;	1.491476	H0Y8C6	3
TFC*GTPEYLAPEVLEDNDYGR	C310 C248 C311 C307 C307 ;C310 C248 C311 C249 ;C310 C248 C311 C249 C307 C307 ;	1.49131357 1	P31749	3
LGTDKC*DNSSMSLQMGYTQGANQSQVFLGR	C261 C240 ;X ;X ;	1.48983	B4DUT8	2
ATGHSGGGC*ISQGR	C24 ;C24 C24 C24 C23 ;X ;	1.48832	Q9HA64	2
YMNGHSDVVMGLVSVNC*ESLHNR	C197 C229 ;C197 C229 ;C229 ;	1.485878	P32929	3
DLSYC*LSGMYDHR	C267 ;C267 ;X ;	1.48477833 3	P52597	3
GEPSSPGELNFPYLFQLEDEGYKGFVGC*EYQPR	C175 C248 C157 C209 C273 C248 ;C175 C248 C157 C209 C273 C248 ;X ;	1.481502	Q5T013	2
VLESTPNNGYLHQIGC*CYK	C283 ;C283 ;C283 ;	1.48054	O14879	3
YMACC*LLYR	C323 M280 C283 M320 C283 ;M313 C283 ; M313 C316 M320 C316 M313 C283 ;	1.48052833 3	P68363	3
GAFC*DLVWSDPEDVDTWAI SPR	C229 C192 C229 C192 C229 C192	1.47886666 7	O00743	3

	C229 C192 ;C229 C192 C229 C192 ;C229 C192 C229 C192 ;			
C*VLPEEDSGELAKPK	C305 C318 ;C305 C318 ;X ;	1.478765	Q9Y3F4	2
C*NEGPILELENLPQNGR	C73 C132 C87 C198 C198 C173 ;C73 C132 C87 C198 C198 C173 ;C73 C132 C87 C198 C198 C173 ;	1.47506727 3	M0R383	3
KVAEPELMGTPDGTCT*YPPPPVPR	C1889 M1882 C1889 M1819 C1826 ; C1889 ;M1882 C1826 ;M1882	1.47489892 9	P27708	3
SC*SPSPVSPQVQQAADTISDSVAVPASLLGMR	C96 C96 ;C96 C96 ;X ;	1.47368666 7	Q9NQW6	2
YLGIPGDKEYCISDDLFSLPYC*PGK	C189 C189 C189 ;X ;C239 C189 C151 C288 C189 C339 C339 C241 C189 C304 C233 C151 ;	1.47247	E9PIR7	2
YSLADQTSQDQSPLPCTPTPPC*AEMR	C569 C573 ;C569 C573 ;C569 C573 ;	1.4716525	Q06124	3
GGTC*ISMIDYLLWPWFER	X ;C136	1.471575		2
DQLQELC*IPQDLVGDLASVVFSGRPLLDLSVAQQQGA WLPVADFR	C117 C63 C117 ;X ;C117 C63 C117 ;	1.4707475	Q9GZQ3	3
YNFFTGC*PK	C364 ;X ;X ;	1.47015	Q99832	3
YC*VSWMVSSGMPDFLEK	C302 ;C302 ;X ;	1.47014	Q9NQZ5	2
ETTSHNSLTTPC*YTPYYVAPEVLGPEK	C224 C224 ;C224 C224 ;C224 C224 ;	1.46977	P49137	3
C*EGDEVEDLYELLK	C88 C40 C88 ;C88 C40 C88 ;X ;	1.46933	Q7L8W6	2
YMAC*CLLYR	C315 C315 C315 C315 C322 C282 ;C315 C315 C315 C315 C315 C315 C315 C315 C322 C282 C322 C282 ; C315 C315 C315 C315 C315 C315 C322 C282 C322 C282 ;	1.46897111 1	P68363	3
ALNWDSFNTGDCFILDGQNIFAWC*GGK	C178 C178 ;C178 C178 ;C178 C178 ;	1.4688075	P40121	3
AC*DLPAAVHFPDTER	C181 C153 C181 C123 C181 ;C181 C153 C181 C123 C181 ;C153 C123 ;	1.46879	A0A087WX U3	3
SYAQSQGWWTGEGEFNFSEVFPVEDHLDC*GAGK	X ;C167 C235 C255 ;C167 C235 C255 ;	1.46866		2
FVESILSNNTTDDHC*QEFVNQK	C790 C790 C790 ;C790 C790 C790 ;X ;	1.468295	Q7Z6Z7	2
EITSLDTENIDEILNNADVALVNFYADWC*R	C58 ;C58 ;C58 C58 C58 C58 ;	1.46807666 7	Q9BS26	3
TQADELPAC*LLSAAR	C597 C600 ;C597 C600 ;X ;	1.467122	P10398	2
AIQTVSCLLQGPC*DAGNR	C411 C426 ;X ;C411 C426 ;	1.46602666 7	Q9H3U1	3
SSGGFVWAC*K	X ;C308 C256 ;C308 C256 ;	1.46463		2
MVAAVAC*AQVPK	C431 ;X ;C431 ;	1.46449	Q9HCC0	2
EMAAMC*LGLAHSLSR	X ;C139 ;X ;	1.46439		2
STTPC*MVLASEQDPDELEISLDLDEGPPVLTVENTR	C11 ;C11 ;X ;	1.464045	Q9UKY1	2
LGCNAGVSPSFQQHC*VASLATK	C403 ;X ;C403 ;	1.46404333 3	Q13572	2

EVIQSDSLWLVEFYAPWC*GHCQR	C55 C103 C107 C60 C52 ;C55 C103 C107 C60 C52 ;C55 C103 C107 C60 C52 ;	1.46279818 2	Q15084	3
EIGLWFHPEELVDYTSC*AQNWIYE	C145 C170 C145 C170 ;C145 C170 C145 C170 C145 C170 ;C145 C170 ;	1.46115888 9	P15531	3
GSQMGTVQPIPC*LLSMPTR	C531 C559 ;X ;X ;	1.46056533 3	Q9NZB2	3
AIVDALPPPC*ESACTVPTDVK	C270 ;C270 ;C270 ;	1.45979714 3	Q15181	3
TGAVYLC*PLTAHKDDCER	C94 C94 ;C94 C94 C94 ;X ;	1.45923	P26006	3
AYEYVEC*PIR	C66 ;X ;X ;	1.45887	P53701	3
YNAGEDVQVSMC*AMSEEYAVAIKPKC	C139 ;C139 C139 ;C139 ;	1.45884	Q9GZV4	3
KITIADC*GQLE	C161 ;X ;X ;	1.4584375	P62937	2
VGLGIC*YDMR	C153 C153 ;C153 C247 ;C153 ;	1.45696	Q9NQR4	3
VYQPVSC*PLSDLSENVESVNEEK	X ;C506 C566 C374 C251 ;C506 C566 C374 C251 ;	1.454515		2
DTGISC*DPALLPEPNHVMLNHLIALSIK	C57 C223 ;C57 C223 ;X ;	1.453836	F5H2X8	3
C*DQDAQNPLSAGLQGACLMETVELLQAK	C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 ;C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 ;C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 C240 C245 C124 C242 C240 ;	1.453465	F8W1I6	3
C*WDPSQAYFTLPR	C348 C354 ;C348 C354 C32 ;X ;	1.45323666 7	I3L2N2	3
C*VSMPGDISGLQGGPR	C370 C418 C370 C409 C409 ;C370 C418 C370 C409 C409 ;X ;	1.45262	Q8IY17	2
VLVTTNVC*AR	C392 C310 C393 C361 C302 ;C392 C310 C284 C362 C393 C361 C393 C367 C398 C302 ;X ;	1.452332	Q9NUU7	3
AC*FEPANQMVK	C295 C295 C295 C295 ;X ;X ;	1.45202540 5	P68363	3
GRLPLLAVC*DYK	C950 ;X ;X ;	1.451855	Q15149	2
ASGC*EGEDVVTLK	C628 ;X ;C628 C600 ;	1.451685	P52789	2
AGEGTYALDSESC*MEK	C272 C272 C133 ;C272 C272 C133 ;C272 C272 ;	1.451096	O00541	3
C*LHNFLTDGVPAGEAFTEDFQGLR	C316 C268 C316 C268 C316 C268 ;C316 C268 C316 C268 ;C316 C268 C316 C268 ;	1.45064925 9	G3V1A6	3
NPVINIASMLGSTDIPDWCVVEAGFPFSSDC*LPDLSVWA EMLDK	C641 ;X ;C641 ;	1.44936675 7	P13798	3
GYDSAGVGFDDGNDKDWEANAC*K	C55 C55 ;X ;C55 C55 ;	1.44819	Q06210	2
IYHPNVDENGQICLPIISSENWKPC*TK	C98 ;C105 C98 ;X ;	1.44778714 3	O14933	3
LGMGFNC*R	C312 C268 ;C312 C268 ;X ;	1.44775666 7	Q9NP61	2

FQLTDC*QIYEVLSVIR	C143 C179 ;C143 C179 C143 C179 C143 C179 ;C143 C179 C143 C179 C143 C179 ;	1.44609090 9	Q16555	3
DVALSSGSAC*TSASLEPSYVLR	C330 C321 C41 C20 C381 ;C330 C321 C41 C20 C381 ;C330 C321 C41 C20 C381 ;	1.4450375	Q9Y697	3
LAESLARPC*APGAPAEAR	C103 ;C103 ;X ;	1.444505	P26022	2
LTAQC*VAER	C558 C533 ;C558 C533 ;X ;	1.44106	P37173	2
VVETSALLC*TAQHAAVQSSGAPATASGPQVDNTGGEP AWDSPLRR	C150 ;X ;X ;	1.440896	Q9H6W3	2
DSEDNPQTLIFSATC*PHWVFNVAK	X ;C310 C378 ;C310 C378 ;	1.440895		2
VAF AQMTMPC*PNFYILDEPTNHLDMETIEALGR	C622 C628 ;C622 C628 ;C622 C628 ;	1.43966571 4	Q9NUQ8	3
FFAPEC*GR	C222 C376 C154 C370 C508 C479 ;C479 ;C376 C154 C370 C508 C479 ;	1.43953	H0Y8Y3	3
AIYDTPC*IQAESEKWWQALK	C255 ;X ;X ;	1.43771	O00232	2
EMDSCPVVGEPFC*QNDINLSQAPALPQPEVIQNMTEFK R	C974 ;X ;X ;	1.43673	P14735	2
TC*LPGFPGAPCAIK	C1817 C1886 C1931 C1930 ;C1817 C1886 C1931 C1930 ;C1817 C1886 C1931 C1930 ;	1.435642	P51610	3
FC*MNGAALCALGK	C99 ;X ;C99 C99 ;	1.4337	P14921	2
HC*SQVDVSR	C112 C112 C112 ;C112 C112 C112 ;X ;	1.4324	Q14247	2
GANDFMC*DEMERE	C385 C385 ;C385 ;C385 C385 ;	1.4323625	E7ERF2	3
AEGDLGPSWVC*GFSNLESQVLEK	C184 ;X ;X ;	1.431095	Q15814	2
GVVLC*TFTR	X ;C64 ;X ;	1.43103		2
NEANQPLC*LPALLIYTEASDIYIPDDHQDYAEALINPIK	C834 C767 ;X ;C834 C767 ;	1.43017666 7	Q01970	3
VQIGNAC*WELYCLEHGIQPDGQMPSDK	C20 C20 C20 ;X ;X ;	1.42950655 2	P68363	3
SNIIFPC*DEVMQLLLENLGNENVHR	C544 C689 ;X ;X ;	1.42925	Q14974	2
SGDVYSFVSLEPHGC*GR	C137 C137 ;C137 C137 ;X ;	1.42907166 7	P57081	3
TIGGGDDSFRTFFC*ETGAGK	C54 C54 C77 C77 ;C54 C56 ;C54 C54 ;	1.42768809 5	P68366	3
ISEVFDC*WFESGSMPYAQVHYPFENKR	C526 C526 ;X ;C416 C526 ;	1.42652625	A0A0A0MS X9	3
TPYTIMFGPKC*GEDYK	C194 C229 C86 ;C194 C229 C86 ;X ;	1.42644	P27824	2
QPPWC*DPLGPFVGGEDLDPFGPR	C185 C185 C185 C185 ;C185 C185 C11 C185 C185 C11 C185 C185 C11 ;X ;	1.42626166 7	Q5QPM7	3
STMSLPPGLLGNWSWEGAPAWVLLDECGLLELGEDTPHV C*WEPQAQGR	C505 C457 C505 C457 ;C505 C457 ;C505 C457 C505 C457 ;	1.423534	G3V1A6	3
TGC*TFPEKPDFH	C353 C336 C353 C336 ;C353 C318 C336 C353 C318 C336 ;C353 C336 C353 C336 ;	1.42333	P55263	3
MLLDSEQHPC*QLK	C225 C151 ;X ;C151 C151 ;	1.423085	Q96C36	2
MLSAVSQQVQC*IQEALR	C1977 C1977 ;X ;C1977 ;	1.42116	Q14204	2

ITSC*IFQLLQEAGIK	C63 C63 ;C63 C63 C63 C63 C63 C63 ;C63 ;	1.41963571 4	P22234	3
NENC*TLQFEAAWALTNIASGTSQQT	C139 ;X ;C139 ;	1.41918	O60684	2
TENTIFSSTTLPRPGDPGAPPLPDLQLEEEGTC*ANSSE MFLPLR	C215 ;C215 C215 ;X ;	1.41904428 6	O95999	3
NMMAAC*DPR	C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C650 C303 C650 C303 C303 C303 ;C285 C285 C303 C303 C303 C303 C303 C303 C303 C303 C303 C303 C650 C303 C231 C650 C303 C231 ;X ;	1.41903214 3	Q5JP53	2
LDGSLETTNEILDSASHDC*PLVTQTYGAAAGK	C375 C393 C393 C375 ;X ;C375 C393 C393 C375 ;	1.4188575	Q9Y4P8	2
VVTAGAIIPFLAPGQSLPDSLMLQFGGATPWTPLSAC*G EPSGTR	C403 C403 C368 C403 ;X ;X ;	1.41874888 9	Q9BUK6	3
SMVSPVPSPTGTISVPNSC*PASPR	C91 M237 C254 ; C254 ;M237 C61 M74 C254 ;M44	1.41829833 3	P85037	3
C*SVLPLSQNQEFMPFVK	X ;C616 ;X ;	1.417625		2
AFGGPGAGC*ISEGR	C24 ;C24 ;X ;	1.417496	Q9H479	3
AANSC*TSYSGTTLNLK	C140 C140 C140 C140 C140 ;X ;X ;	1.41725875	Q9UPQ0	3
FSTQGMGTFPADYSDSTSTDVC*GTK	C208 C85 C208 C85 ;X ;X ;	1.415728	Q5T6F2	2
FSPNSSNPIIVSC*GWDK	C168 C168 ;C168 ;X ;	1.41550875	P63244	3
NDPPMEAAGFTAQVILNHPGQISAGYAPVLDL*HTAH	C363 C342 C361 ;X ;X ;	1.413897	P68104	3
GLC*ESVVEADLVEALEK	C79 C84 C84 C84 C79 C84 ;C79 C84 C84 C84 C79 C84 C79 C84 C84 C84 C79 C84 ;C79 C84 C84 C79 C79 C84 C84 C79 ;	1.41278666 7	Q8WVV9	3
YC*RPESQEHPEADPGSAAPYLK	C687 ;X ;X ;	1.411945	P40763	2
ELANSPDC*PQMCAK	C189 C187 C187 ;X ;X ;	1.4119025	P48739	2
TVCEVVNLTLNHC*ILDFFCFEQSPCVLSR	C350 ;C350 ;X ;	1.41149	Q5VZE5	3
DWPAQYC*EALADEENR	C283 ;X ;X ;	1.41094166 7	Q96MG7	2
TGGGVGPKGGVLLC*PPR	C858 C858 C713 ;X ;C858 C858 C713 ;	1.410805	Q8WZ75	2
GEEKDLAVVTQSAEAPAEEDLLGPNC*YYDK	C310 C230 C310 ;X ;X ;	1.40942142 9	Q9BX40	3
YVAAAFPSAC*GK	C306 C172 ;X ;C306 C306 C172 C318 C172 C306 ;	1.40891	Q16822	2
IIPGFM*QGGDFTR	C62 M61 C62 ;M61 C62 ;	1.408136	P62937	3
SSLPLLIIPSENLPHEEDQVVC*GFK	C113 ;X ;C113 ;	1.4079	Q9UJM3	2
ETVYC*LNDDDETEVLKEDIQGF	C296 C296 C296 C296 ;C296 C296 ;C296 C296 C296 ;	1.407678	P13010	3
YNEAESDC*LQGFQLTHSLGGGTGSGMGTLLISK	C59 ;X ;X ;	1.4072725	MOQYM7	2
SGGLQTP*LSR	C439 ;C439 ;X ;	1.407255	P85037	2
PEIVDTC*SLASPAVCR	C8 C8 ;X ;X ;	1.40646	P09960	2
TC*VPADINKEEFVEEFNR	C12 ;X ;X ;	1.4062625	P98170	2

STC*SLTPALAAHFSENLK	C450 C508 C553 C401 ;C450 C508 C553 C401 ;C450 C508 C553 C401 ;	1.40401	Q9BTA9	3
DAANC*WTSLESEYAADPWVQDQMQR	C99	1.40101	Q8WVJ2	3
FASGGC*DNLIK	C190 C233 C173 C173 C187 ;C190 C233 C173 C173 C187 ;X ;	1.40076666 7	A0A0C4DF R6	2
SDPDAC*PTMPLLAMLLR	C199 C210 ;C210 ;C199 C210 ;	1.40021	I3L2C7	3
AVQALC*AVYEHVWVPR	C196 ;X ;C196 ;	1.39855	O60701	2
NVLLSAGC*DNVLIWNVGTAEELYR	C153 ;C153 C153 ;C153 C153 ;	1.39839285 7	Q9BR76	3
PASQIGC*SAPGYLPTSLAWHPQQSEVFGDENGTVSL VDTK	C208 ;X ;X ;	1.39609333 3	Q9BQA1	3
LMHLFTSGDC*K	C91 ;C91 ;C91 ;	1.39444	Q8WXD5	3
AWHLAETEHC*GATPSNR	C418 C275 C399 ;C418 C275 C399 ;C418 C275 C399 ;	1.3926025	P36941	3
TC*DISFSDPDDLNFK	C47 ;C47 ;X ;	1.392138	P61081	3
TPDTSTYC*YETAEK	C2041 ;C2041 ;X ;	1.3906925	P46821	2
GYWASLDASTQTTHLTIPTNNLIGC*IIGR	C293 ;C293 ;C293 ;	1.38941333 3	Q15365	3
VQVSDPESTVAVAFPTIPHC*SMATLIGLSIK	C93	1.38836	Q9Y3D0	3
GPAEEEEASSPPVLSLSHFC*R	C45 C45 C45 ;C45 C45 C45 ;X ;	1.386075	Q8IZT6	2
NHLLPDIIVC*VQSSR	C184 ;C184 ;C184 ; C256 C324 C344 ;X ;X ;	1.38516642 9	Q9BSD7	3
TQSPC*FGDDPAK	C256 C324 C344 ;X ;X ;	1.38358333 3	Q12765	2
INQMVC*NSDR	C853 ;X ;X ;	1.38312333 3	P06400	2
EEQVISLGPQVAEGENVFGVC*HIFASFNDTFVHVTDLG K	C31 C31 C31 C31 C31 C31 ;C31 C31 ;C31 C31 C31 C31 ;	1.38262083 3	E5RH77	3
ALSVGNIDDALQC*YSEAIK	X ;C26 C26 C73 C26 C26 ;C26 C26 C73 C26 C26 ;	1.382605		2
ITAEDC*TMEVTPGAEIQDGR	C201 C216 C201 C216 ;X ;X ;	1.38131666 7	Q6UN15	2
INPIC*NDHYR	C70 ;C70 C70 ;X ;	1.38068666 7	Q96KB5	2
AC*GLNFADLMAR	C86 ;X ;X ;	1.379255	Q99536	2
NFQAC*LHNSWIEQAAAALIEIELEEDMYK	C746 C691 ;C746 C691 ;C746 C703 ;	1.3786425	Q9GZR7	3
LLDEYNVTPSPPGTVLTSALSPVIC*GPNR	C2085 ;C2085 ;X ;	1.377645	Q04721	2
C*KPVPLLELAEGQK	C73 C66 ;C73 C66 ;C73 C66 ;	1.37749	Q8NHV4	3
TTLEHSDC*AFMVDNEAIYDICR	C200	1.37649942	P68363	3
SDVC*TPGGTTIYGLHALEQGLR	C235 C247 ;C235 C247 C235 C247 ;C235 C247 ;	1.37607769 2	Q53H96	3
FTTSC*MTGYSPQLQGLSSGGSGSYSPGVTYSPVSGYN K	C158 C158 C157 ;X ;X ;	1.37605333 3	Q96SK2	2
ECEHC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C127 ;X ;C127 ;	1.3759325	Q9BUF5	3
TNLEFLQEQQNSIAAHVLC*TDSGFGAR	X ;C856 C850 C886 C850 C850 C856 C724 C850 ;X ;	1.37553333 3		2
LELVLEAHRPIC*K	C172 ;X ;C70 C136 C172 ;	1.37494	P15407	2
STLTDSLVC*K	C41 ;C41 ;C41 ;	1.374386	P13639	3
NILGGTVFREPIIC*K	C154 C102 ;X ;C154 C102 ;	1.3739	P48735	3
SIEIPRPVDGVEVPGC*GK	C261 C429 C425 ;C429 C425 ;X ;	1.37285333 3	K7ENG2	2

NWPEDTNFC*FQPEQVVDPIQTDPFK	C143 C126 ;X ;X ;	1.37079375	E7EVA0	3
AYLEGECE*VEWLR	C188 ;X ;X ;	1.36824	Q95604	2
ANASIC*FAVPDPLMPDPSKQPK	C106 C81 C95 ;C106 C81 C95 ;C106 C81 C95 ;	1.367984	O75569	3
VC*VIDEIGK	C110 ;X ;X ;	1.365915	Q9BSD7	2
AFPQLGGRPGPEGECSLESQPPPLQTQAC*PESSCLR	C79 ;X ;X ;	1.365345	O94992	2
NWYIQATC*ATSGDGLYEGLDWLANQLK	C159 ;C159 ;X ;	1.36444	P61204	2
VLLSIC*SLLCDPNPDDPLVPEIAR	C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;C78 C108 C78 C107 C107 C107 C78 C107 C109 C101 ;X ;	1.36184666 7	D6RFM0	2
LAENFC*VCHLATGDMLR	C40 C40 C40 C40 ;X ;C40 C40 C40 C40 ;	1.36073	P54819	2
DEYISIDNEALYDIC*FR	X ;X ;C211 ;	1.359635		2
LAFEIIDQYFSGDDIDEDPC*LIPEATQGGTYNFDPTANLQ TK	C495 ;X ;X ;	1.359484	O00505	2
YNLEELYQAVENLC*SYK	C235 C248 C230 C52 ;X ;C235 C248 C230 C52 ;	1.35584	K4DI93	2
NSPSLFPC*APLCER	C142 ;X ;C142 ;	1.35496833 3	Q9UJM3	2
C*ALGWDHQEK	C246 C246 C246 ;X ;C246 C246 C246 ;	1.35486666 7	Q14247	3
EIVHIQIQC*GNQIGAK	C12 ;X ;X ;	1.35395333 3	Q9H4B7	2
AMELLSAC*QGPAR	C104 C91 ;X ;C104 C91 ;	1.353015	O60551	3
VDSTTC*LFPVEEK	C246 C264 ;X ;C246 C264 ;	1.35096	Q06210	3
LISPNLGVVFFNAC*EAASR	C342 C316 C342 C316 C342 C316 ;C342 C316 C342 C316 C342 C316 ;C342 C316 C342 C316 ;	1.34959846 2	Q66K74	3
VVSDSYDIYNAC*EK	C287 ;X ;X ;	1.34922704 5	P43490	3
FSIQTMC*PIEGEGNIAR	C136 ;X ;C127 ;	1.346472	F8W950	2
NLNDQVLFIDQGNRPLFEDMTDSDC*R	C70 C74 ;C70 C74 ;C70 C74 ;	1.34616	Q14116	3
TAGC*VTGGEEIYLLCDK	C261 C262 ;C261 C262 ;X ;	1.345955	P19838	2
FDDLQFFENC*GGGSFGSVYR	C22 ;C22 C22 C22 C22 C22 ;C22 ;	1.344769	Q9NYL2	3
ECEHCDC*LQGFQLTHSLGGGTGSGMGTLISK	C129 ;X ;X ;	1.34476833 3	Q9BUF5	3
TTEDEVHIC*HNQDGYSYPSR	C661 C671 C798 C839 C718 C924 ;X ;X ;	1.342835	P01130	2
TMALTEC*LLCARGTLGPHSHSVS	X ;C154 ;C154 ;	1.342365		2
AFDLIEHYFGTEDEDSSIAPQVDLNQQQYIFQQC*EAPME GFQL	C529 C529 C529 C529 ;C529 ;C529 ;	1.341308	P52294	3
HGPGLANVC*QYDEWIAVR	C33 ;C33 ;C33 ;	1.34050666 7	Q86XJ1	3
NLFFQC*MSQTLPTSNYFTTVSESLADSSSR	C529 ;X ;X ;	1.33714333 3	Q7LBC6	2
FMTPIQDNPSGWGPC*AVPEQFR	C19 ; C19 ;M5 C19 M5	1.33558083 3	O15371	3
GC*EADITPEDLFNIFGGGFPSGVSFSNGR	X ;C107 C192 ;C107 C192 ;	1.32919		2
AFTQLFQVACAKPPPLGLC*DYPSSR	C572 ;C572 ;C572 ;	1.32461	Q14166	3
LECEPNC*R	C77 C77 C77 C77 C113 ;C77 C77 C77	1.32293666 7	H7BZ11	2

	C77 C113 C77 C77 C77 C77 C113 ;X ;			
LTMPSPMPEYLNHVHYIC*ESASR	C387 C406 ;X ;X ;	1.3215975	P49116	3
EGPTDHLESAC*PLNLPLQNNHTAADMYLSPVR	C590 ;C590 ;X ;	1.320325	P06400	2
MQPDQVQVINC*AIVR	C64 ;X ;X ;	1.31954666 7	P50552	2
TDICQGALGDC*WLLAAIASLTLNNEILAR	C105 C105 C105 ;C105 C105 C105 ;C105 C105 C105 C105 ;	1.317444	P17655	3
LLSNMMC*QYR	C160 M158 C160 ;X ;X ; C156 M158	1.31556625	P28062	3
QVC*QLPGLFSYAQHIASIDGR	C49 ;C49 C49 ;X ;	1.31554	Q9Y6C9	2
NIELIC*QENEGENDPVLQR	X ;X ;C228 ;	1.31544		2
KYEDIC*PSTHNMDVPIK	C103 C73 C73 ;X ;X ;	1.311735	P63241	2
TGNGPMSVC*GR	C499 C490 C493 C574 C491 ;C499 C490 C493 C574 C491 ;X ;	1.3115575	O95793	3
HTGPGILSMANAGPNTNGSQFFIC*TAK	C115 ;X ;X ;	1.3081975	P62937	2
SCFLCMVC*K	C40 ;C40 ;C40 C40 ;	1.30809666 7	P21291	3
FC*ACPEEAHALELR	C64 ;X ;X ;	1.307978	MOQWZ7	2
HALQNSDC*TELDGSGSQSGELSNR	C106 ;C106 ;X ;	1.30788	Q96LW7	2
VLQSEFC*NAVR	C47 C47 ;C47 C47 ;X ;	1.30695	Q9NUP9	2
AAAYAAEANDHELAQAILDGASITLPHGTLC*ECYDELGN R	C103 ;C103 ;X ;	1.306445	Q9HAC8	2
IWTAHYDPGHC*FAESR	C59 ;X ;C59 ;	1.30644333 3	Q9H553	2
DVPLADPGLDNDVGVGVEGGSGGC*LEER	X ;C62 ;C62 ;	1.30644333 3		2
AQAISPC*VQNFCALDSK	C513 C513 C513 ;X ;C513 C513 C513 ;	1.306215	Q8WTW3	2
DTILNAIEQHPVVVISGDTGC*GK	C461 ;X ;C461 C422 C489 C433 ;	1.30313	Q7L2E3	2
VSC*SDNLNQVYIDISNIPTTEDEFLLCYSNSLR	C389 C313 ;C389 C313 ;X ;	1.30218	Q9BT40	2
YSNVIFLEVDVDDC*QDVASECEVK	C62 ;X ;X ;	1.301645	P10599	2
LDPC*DLQPIFDDMLHFLNPEELR	C594 C594 ;C594 ;X ;	1.295068	O75509	3
C*SDWASAVEEDEMR	C80 C72 C72 C33 ;C80 C72 C72 C33 ;X ;	1.29325666 7	H7C4H8	2
NLGNSC*YLNVSQVLFSPDFQR	C335 C335 ;C335 C335 ;C335 C335 ;	1.29325666 7	P45974	3
MC*NEFFEGFPDKQPR	C86 ;C86 C86 ;C86 ;	1.29295821 4	P26447	3
NLVQC*GDFPHLLVYGPAGK	C32 C32 ;C32 ;C32 ;	1.290894	P40938	3
NFVENFC*AITGQSLNHVLCNQDSDLPEGATVPALGLSN K	C540 C470 C449 C475 C405 ;C540 C470 C449 C405 C475 C475 C405 ;X ;	1.28923	Q6IA86	2
ALC*LLLGPDDFTDVIETADHAR	C515 ;X ;C515 ;	1.2832	Q14764	2
VHVDC*MTSQK	C1455 ;C1455 C1392 ;X ;	1.28019	P27708	2
AQVCQQAHEHSFAGMPC*GIMDQFISLMGQK	C212	1.27879875	P51570	3
C*YQLPPGAR	C252 C223 ;C252 C223 ;X ;	1.27860333 3	P13716	2
NVASVC*LQIGYPTVASVPHSIINGYK	C226 ;C226 C226 ;X ;	1.2781	P05388	2
MSSYAFFVQTC*R	C23 M13 C23 ;X ; C23 ;M13	1.275955	Q5T7C4	2
SLGTPEDGMAVC*MFMQNTLTR	C127 M124 C127 M130 C133 ;X ;X ;	1.27340571 4	E9PJS8	3
VSLDPELEEALTSASDELTC*DLAAILGMHNLITNTK	C132 C132 ;C132 ;C132 ;	1.27315111 1	Q9NYL9	3

C*ELFDQNLK	C195 ;C141 C195 C152 C102 ;C195 ;	1.2705525	Q9Y296	3
TYSHLNIAGLVGSIDNDFC*GDTMTIGTDSALHR	C170 C170 C170 ;C170 C170 ;C170 C170 ;	1.27009303	P17858	3
ALNWDSFNTGDC*FILD LGQNIFAWCGGK	C165 C165 C165 C165 ;C165 C165 ;X ;	1.26971	P40121	2
GC*AFVTFTR	C150 C177 C132 C149 C150 C150 C176 ;C150 C177 C132 C149 C150 C150 C176 ;X ;	1.2635575	Q92879	3
MSESPTPC*SGSSFEETEALVNTAAK	C2573 C2528 C2577 C2573 ;C651 C277 C2528 C2573 C2577 C719 C651 C2573 C273 C663 C663 C308 ;X ;	1.26285	O95359	2
C*QSGDDNLTSLGTLNFPGR	X ;X ;C270 C282 C32 C367 C52 C341 C367 C278 C341 C37 ;	1.261585		2
YSTGSDSASFHTTPSMC*LNPDEGPPLEAYTIQQQY	C213 C217 C217 C213 C213 C217 C217 C213 ;X ;C213 C217 ;	1.26130842 1	Q15366	3
HFLIEC*TPK	C1001 C1241 ;C1001 C1241 ;C1001 C1241 ;	1.260406	Q68CZ2	3
GLDLQGFLNDLENAPEFSIVVLHAC*AHNPTGIDPTPEQWK	C171 C192 ;C171 C192 ;C171 C192 ;	1.2603425	P17174	3
NEMNC*KEDQFQLSLLAAMGNTQR	C684 ;X ;X ;	1.26012	P53618	2
AAAYAAEANDHELAAQILDGASITLPHGTLCEC*YDELGNR	C105 ;X ;X ;	1.25989333 3	Q9HAC8	3
SC*PETLTHAVGMSESPIGPK	C648 C888 C991 ;X ;X ;	1.25967125	Q68CZ2	3
YEAAPFLSPC*GR	C98 C143 C90 ;C143 C98 ;C143 C98 ;	1.25880555 6	Q6P1X6	3
DC*QIAHGAAQFLR	C1086 C1093 ;C1086 C1093 ;X ;	1.25788	C9J2Y9	3
AAQLEPITYMQGLSAC*EQIR	C62 C62 C162 ;C162 ;C162 ;	1.2577575	V9GY67	3
SASASPLTPC*SVTR	C373 C336 ;C373 C341 C336 ;X ;	1.25536	Q3KQU3	2
VLQFNEVGANAVTPMTPENFTSC*GFMQQIQK	C79 ;X ;X ;	1.251345	P05120	2
ECESVLVNDFFLVAC*LEDFIENAR	C328 ;C328 ;X ;	1.25125	P60228	2
NWISQLQMHAYC*ENPDIVLCGNK	X ;C123 C123 C123 ;C123 C123 C123 C123 C123 C123 ;	1.25124		2
ALVLELCC*NDESGEDVEVPYVR	X ;C1040 ;C1040 ;	1.250805		2
NDAPEEAGEGC*VAAILGETEVQQFLR	C57 C57 C57 ;C57 C57 ;X ;	1.24452777 8	Q96DC7	2
GLNPLNAYSDLAEFLETEC*YQTPFNK	C343 ;C343 ;C343 ;	1.24352187 5	O14879	3
TDSCDVNDC*VQQVVELLQER	C212 C212 C212 ;C212 ;C212 ;	1.23994857 1	O43252	3
HPSAVTAC*NLDLENLITDSNR	C325 C325 ;C325 C325 ;C325 ;	1.23969375	Q9UBF2	3
LVNSVAGC*ADDALAGLVACNPNLQLLQGHR	C14 C12 C13 C13 C13 ;C13 C14 C12 C13 C13 C13 ;C14 C12 C13 C13 ;	1.23634	A0A087WU L0	3
LFAPQQILQC*SPAN	C230 ;X ;X ;	1.23254857 1	P04183	3
SC*PVVQSSQHLFLDLPK	C441 ;C441 ;X ;	1.23158	P56192	2
YDLLFMPPSFPFGGMENPCLTFVTPC*LLAGDR	C311 ;X ;X ;	1.23113911 8	Q9H4A4	3

AAQVALLYLQELAEELSTALPAPVSC*PEGPK	C212 C212 C212 ;C212 C212 C212 C212 C212 C212 ;X ;	1.227245	Q8WUA4	2
TVGVQGDC*R	C523 C424 ;C523 ;X ;	1.22640666 7	P49915	2
C*DENILWLDYK	C152 C152 ;X ;C152 C152 ;	1.22269333 3	P14618	2
IHEC*QWVVEDAPNPDVLLSHKDDVK	C891 ;X ;C891 ;	1.2166625	Q9BZQ8	2
LEYC*EALAMLR	C349 ;C349 ;X ;	1.21626	P14868	2
AYSFC*GTVEYMAPEVVNR	C207 C223 C232 C223 C131 C229 ;X ;X ;	1.212	Q15418	2
MVHNGIEYGDMQLIC*EAYHLMK	C186 C199 ;C186 C199 ;X ;	1.20791285 7	P52209	3
ASEQIYGTPSSSPYEC*LR	C881 C754 C888 C871 C868 C851 C754 ;X ;X ;	1.20778	Q14203	2
KDC*EVMMIGLPGAGK	C497 C478 C497 C478 ;C497 C478 ;X ;	1.20524	Q00839	2
FALNPEMVEGLVLINVNPC*AEGWMDWAASK	C168 ;M156 C168 ; C168 M156	1.20279974 4	Q92597	3
TGEPIC*VAELTEENFQR	C258 C258 C258 C107 C258 C258 C258 C107 C258 ;C258 C258 C258 C107 C258 C258 ;X ;	1.19949333 3	X6RM00	2
YAC*GLWGLSPASR	C26 C26 C457 C457 ;C457 C26 ;C457 C26 C175 ;	1.19869545 5	H7C0N4	3
EAESC*DC*LQGFQLTH	C129 ;X ;X ; C129 C127 C111 C127 C109	1.195415	Q5JP53	2
LSLLGGALPMFELVELQPSHLAC*PDVLNLSLDSSDVER	C361 ; C361 ;X ;M348	1.195097	Q9Y4P1	3
C*ELENQPFVETLHGK	C100 ;X ;X ;	1.193522	Q06203	2
C*PGPLAVANGVVK	C604 C604 ;C604 C604 ;C604 C604 ;	1.192712	Q9Y6Y8	3
GYVC*GAGPGEGPAADPLHQAMR	C29 C29 C29 C29 C29 C29 ;C29 C29 C29 C29 C29 C29 C29 ;C29 C29 C29 C29 C29 C29 ;	1.191716	Q92843	3
FDENVMVC*PHMTWR	C709 C722 ;X ;C709 C722 ;	1.189935	P49589	2
HFVGMPLPEKDC*R	C63 C80 ;X ;C63 C80 ;	1.18879	P60981	2
AKENDENC*GPTTTFVGNISEK	C83 ;X ;X ;	1.188485	P49756	2
PCSRITPEC*VVGWSR	C242 ;X ;C242 ;	1.188025	Q96MC9	2
IWC*FGPDGTGNILTDTK	C651 ;C651 ;X ;	1.18758875	P13639	3
C*HVQTIQLCR	C153 C153 C14 ;X ;X ;	1.1811525	O00541	2
HLEGGC*SVPVAVHTAMK	C244 C261 C230 ;X ;X ;	1.17951666 7	P08397	2
LADQC*TGLQGFLVFH	C129 C129 C129 ;C129 C129 C129 C94 ; C129 C129 C129 C129 ;	1.17912594 6	P68363	3
FTYC*SQVLGLHCYK	C498 ;X ;C498 ;	1.173805	Q14258	2
IALESEGRPEEQMESDNC*SGDDDDWTHLSSK	C331 ;X ;X ;	1.16674333 3	Q13501	2
C*QALGVITEK	C150 C150 C150 C150 C147 ;C150 C150 C150 C150 C147 ;X ;	1.16649	O75616	2
HTAHAC*K	C370 C349 C368 C370 ;X ;X ;	1.16527	P68104	2

SSASVSGSPSDGGFISSEYDYGSSPC*DFR	C436 ;C436 ;X ;	1.16519333 3	P35568	2
SEGTYC*CGPVPVR	C370 C370 ;C370 ;X ;	1.1630975	P21980	2
AGIYC*VGDEVTMADLCLVPQVANAER	C112 C127 C155 C140 C154 ;C127 C155 C154 C140 C154 C99 ;C127 C155 C140 C154 ;	1.15956333 3	A0A0A0MR 33	3
ALSGYC*GFMAANLYAR	C888	1.15782333 3	P53618	3
C*GNQAAMELDDTLK	C269 ;C269 C269 ;C269 C269 ;	1.15635	P67775	3
MSNWQGAIDSC*LEALELDPSTNK	C296 ;X ;X ;	1.15331	Q08752	2
FC*DNVWTFVLNDVEFR	C68 C68 C68 ;C33 C68 C33 C68 C33 C68 ;C68 C68 C68 ;	1.15311583 3	P52657	3
EVSQHFNQAPGDLPAAGGPPSGAMPFYNPAQLAQAC*A TSGSSR	C2337 C2337 ;X ;X ;	1.1516825	J3KNL6	2
EACPELDYFVVFSSVSC*GR	C2024 ;C2024 C2024 ;C2024 C2024 ;	1.149912	P49327	3
VQAQYPGVC*INNEVVEPSAEQIAK	C82 ;X ;C82 ;	1.14831	P50135	2
SLHTLFGDELK*K	C99 ;X ;X ;	1.14348333 3		2
LPIIGVVENMSGFIC*PK	C235 C224 C235 C224 C235 C224 ;C235 C224 C235 C224 ;C224 ;	1.14312833 3	P53384	3
LNLPINIIGLAPLC*ENMPSGK	C304 C335 ;X ;X ;	1.14301	P28838	2
HLC*EEENLLQVWVHSMQDEFIR	X ;C837 C822 ;C837 C822 ;	1.14256		2
TC*FISCVASGQRPHLCCISHGLASFLESVWFHC*LS	C185 ; C185 C154 C185 ;C154 C154	1.1417925	B4DVA9	3
YNVYPTYDFAC*PIVDSIEGVTHALR	C381 ;X ;C381 ;	1.1368675	P07814	3
MSYLTAMGADYLSC*DSR	C891 C945 C891 C918 C914 C914 C914 ;X ;X ;	1.13606	Q9UDY2	2
LC*EPEVLNSLEETYSPPFR	C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 ;C106 C261 C224 ;C106 C261 C261 C261 C242 C261 C224 C261 C177 C227 C261 ;	1.13340666 7	G3V5I6	3
NFNYHILSPC*DLSNYTDLAMSTVK	C461 C498 C461 C498 C461 C498 ;C461 C498 C461 C498 ;C461 C498 ;	1.13314	G5E9W3	3
ATDYPC*LLILDQPNEFETLR	C145 ;C145 ;X ;	1.13015333 3	Q9NVG8	3
FC*NIMGSSNGVDQEHSNVVK	C150 C150 C150 ;X ;X ;	1.12755727 3	Q9NYL9	3
LEKPNEGYLEFFVDC*SASATPEFEGR	C85 ;C85 C85 ;C85 C85 ;	1.12477	Q15024	3
NSIQNQESYEDGPC*TITSNK	C265 C211 ;C265 C211 ;X ;	1.12437666 7	Q9Y2L5	2
SAC*DTVDTWLDDTAK	C4216 ;X ;C4216 ;	1.12094666 7	Q14204	2
ASATGMIIMDGVEVPEENVLPGASSLGGPFGC*LNNAR	C289 C289 C289 C289 ;X ;C289 C289 ;	1.12	Q92947	2
IGEIVAEMDVPLHC*R	C49 C49 C49 ;C49 ;C49 C49 ;	1.11961	Q5SRE7	3
NDITAWQEC*VNN SMAQLEHQAVR	C106 C106 ;C106 ;X ;	1.115995	O75934	3

NLAVAMC*SR	X ;C55 C55 C43 C55 C55 C55 C55 ;C55 C55 C43 C55 C55 C55 C55 ;	1.11381666 7		2
SDLDRFWLETLCLIGESFDDYSDDVC*GAV	C170 C150 C178 ;X ;C170 C150 C178 ;	1.113105	P06730	2
AAQDFSTC*R	C53 C59 ;X ;X ;	1.11097333 3	H0Y5R6	2
TAFLAEDFNPEEINLDC*TNPR	C180 ;X ;C180 ;	1.10991666 7	Q5HYI8	3
WVDPNSPVLLLEDVLC*ALAK	C242 C242 C242 ;X ;C209 C242 C123 C219 C242 C242 C242 C216 C242 C242 ;	1.10802	P17516	2
IC*EPGYSTYK	C211 ;C211 ;X ;	1.1077975	P07858	2
GMGESC*FEDLLPWLMTLTYEQSSVDR	C1692 ;C1692 C1692 C1692 ;C1692 ;	1.104874	Q92616	3
APPWVPAMGFTLAPSLGC*FVGSR	C19 ;C19 C19 ;X ;	1.10352333 3	P30536	2
ECFHPYNTC*ITDLR	C67 ;C67 ;X ;	1.10001	Q8TBE9	2
VICAEOPYIC*K	C456 C357 ;X ;X ;	1.099952	P49915	3
MPC*TEDYLSLILNR	C471 ;X ;X ;	1.09792666 7		2
C*GMVWFSEDLSTDMIFNNFLAR	C2359 ;X ;C2359 ;	1.097795	Q14204	2
LQAFGNEC*SIEQMEHVR	C111 C88 C201 ;C111 C88 C201 ;X ;	1.096565	B4DUJ5	2
LMEPIYLVEIQC*PEQVVGGIYGV LNR	C751 ;X ;X ;	1.09368416 7	P13639	3
SC*LDYQTQETK	C110 C110 ;C110 C110 ;X ;	1.093635	O43572	2
FNPEAGANC*LVK	C449 ;C449 ;X ;	1.09043333 3	O14777	2
TLAALVDHC*QGR	C388 C388 ;X ;C388 C388 ;	1.08998	Q96CW5	2
VLRHEEFEEGC*K	C41 C41 C41 C41 C245 ;X ;X ;	1.0893	Q9HC38	2
C*ASQVGMTAPGTR	C236 C215 ;C236 C204 C215 C152 C236 C204 C215 C152 ;X ;	1.08899285 7	B4DUT8	2
LCDYVCDLLEESNVQPSTPVTVCGDHGGFYDLC*ELF R	C99 C62 C99 C62 ;X ;C99 C62 ;	1.0877075	O00743	3
ESESCDC*LQGFQLTHSLGGGTGSGMGTLLISK	C129 ;X ;X ;	1.08625333 3	Q9BVA1	2
TPSYSISSTLNPQAPEFILGC*TASK	C142 C98 C94 ;C142 C98 C94 ;X ;	1.07868	Q14694	2
GFAGVC*GFGGPPYGETVATGPYR	C892 C920 ;X ;X ;	1.0782075	Q9NZB2	3
AAAALC*TLYHEAGQR	C21 C21 ;X ;C21 C21 ;	1.07777	D6RGJ2	2
LHC*DPTFELEEMILESRLHK	C379 C262 ;X ;C379 C262 ;	1.0766325	Q86UX6	2
NC*GCLGASPNEQLQEENLK	C32 ;C32 ;C32 ;	1.07635333 3	P54136	3
LATGSDDC*AAFFEGPPFK	C170 ;C170 ;X ;	1.075886	O75083	3
AAC*LESAQEPAGAWGNK	C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 C53 ;C53 ;X ;	1.07408666 7	C9JEJ8	2
ENFSLDWC*K	C117 ;C117 ;C117 ;	1.07278	P23919	3
GADYMDL*LYR	C116 C122 C103 C103 ;X ;X ;	1.07164	AOA0A0MT N0	2
C*IAMMCNEFFEGFPDKQPR	C81 ;X ;C81 ;	1.07111193 5	P26447	3
DNEVDFQEYCVFLSCIAMMC*NEFFEGFPDK	C86 ;C86 C86 ;X ;	1.06987266 7	P26447	3

C*ALLASEVPQLALQLLDQDPESYVR	X ;C539 ;C539 ;	1.06910666 7		2
TVVNISSLC*ALQPFK	X ;C159 ;X ;	1.06798		2
TNTAVRPYC*FIEFDNFIQR	C111 C111 C111 C111 ;C111 C111 C111 C111 ;C111 C111 C111 C111 ;	1.065682	C9JDJ8	3
AVMEQIPEIQKDSLQDFDC*K	C1131 ;X ;X ;	1.06509333 3	Q9HAV4	2
NAEDC*LYELPENIR	C145 C70 ;X ;X ;	1.0641	Q9NZ63	3
ADASSTPSFQQAFASSC*TISSNGPGQR	C688 C928 C1031 ;C688 C928 ;C688 C928 ;	1.05725	Q68CZ2	3
NTMEALPAC*LLR	C79 C79 C87 C87 ;C79 ;C79 ;	1.05682	P04183	3
LSTLC*PSAVLQR	C1134 ;X ;X ;	1.055585	Q86VP6	2
VRPC*VVYGGADIGQQIR	C282 C298 C298 C298 C298 ;C282 C298 C298 C298 C298 ;X ;	1.05548	O00571	2
CENCDC*LQGFQLTHSLGGGTGSGMGTLISK	C476 C129 C476 C129 ;C476 C129 C57 ;X ;	1.05470545 5	A0A0B4J26 9	3
C*SDAAGYPHATHDLEGPPLDAYSIQGQHTISPLDLAK	C201 C201 C201 ;C201 ;C201 ;	1.05106087	Q15365	3
NPVINIASMLGSTDIPDWC*VVEAGFPFSSDCLPDLVVA EMLDK	C629	1.049818	P13798	3
TTANAIYC*PPK	C202 C202 ;C29 C202 C202 ;X ;	1.048725	O00231	2
GSAFAIGSDGLC*CQSR	C29 C29 C110 ;X ;X ;	1.04781	A0A087X2 G1	2
ANSWFNC*R	C466 ;X ;X ;	1.04704	P03956	2
EC*EHCDCLQGFQLTHSLGGGTGSGMGTLISK	X ;X ;C124 ;	1.04585		2
LISDAGYQGEITSVSTAC*QQLVFSR	C186 C204 C195 C198 ;X ;X ;	1.04142	Q8IXH7	2
QPRPEAAEFQAEFVSTPELAAQSDFIVVAC*SLTPATEG LCNK	C216 C216 C216 C216 ;C216 ;X ;	1.038768	Q9UBQ7	2
SPGVVISDDEPGYDLDFC*IPNHYAEDLER	C23 C23 C23 C23 ;C23 C23 ;C23 C23 ;	1.03866074 1	P00492	3
NPFGLVPVLENSQQQLIYESAITC*EYLDEAYPGKK	C90 ;X ;C62 C90 ;	1.037122	P78417	3
VVSLSTC*IFPDK	C139 C116 C116 C116 ;X ;C116 ;	1.03547	A0A0J9YX1 3	2
GEFYVIEYAAC*DATYNEIVTFER	C50 C14 C99 C86 C99 C14 ;C50 C14 C99 C86 C99 C14 C50 C14 C99 C86 C99 C14 ;C50 C99 C86 C99 ;	1.032605	E9PFF5	3
IYGGSVTGATC*K	C218 C255 ;C218 C255 ;X ;	1.023735	P60174	2
IDC*FSEVPTSVFGEK	C384 ;C384 ;C384 ;	1.01559	O00567	3
MQHLNPDQPQLIPEQITTDITPEC*LVSPR	C520 C520 C473 ;C520 C520 C520 C473 ;C520 C520 C473 ;	1.012134	Q96AC1	3
C*YYSNTDAVIYVVDSCDRDR	C63 C80 C80 C63 C80 C80 ;C63 C80 C80 ;C63 C80 ;	1.009515	P40616	3
LVHDLPPPEVC*SLLNPAIYANNEISLR	X ;C85 C85 ;C85 ;	1.004875		2
TLC*NFAGDLAAEVITEAEK	C1257 C1257 ;C1257 ;X ;	0.99935666 7	Q9UKA4	2
LHTPMYFFLSNLSCVDIC*FTTSVAPQLLVTMKN	C72	0.99633	Q5TZ20	2
TDFLSPMC*IGEVAHVSAEITYTSK	C87 C87 ;C87 C117 C107 C75 C66 C87 C117 C107 C75 C66 ;C87 C117 C107 C75 C66 ;	0.99424714 3	O00154	3

ESSMGDPMEALALC*SGSFPTDK	C928 C917 C981 C981 ;C928 C917 C981 C981 ;C928 C917 C981 C981 C928 C917 C981 C981 ;	0.99215	E7ESG2	3
LYQSLEFPSSC*LLHPITSIEYQWIQGR	X ;C370 C370 ;C370 C370 ;	0.99192		2
FICVTPTC*SNITIDLPMSPR	C718 ;X ;C718 C717 ;	0.9897	P40763	2
SRYPVCGSDGTTYPSC*QLR	C131 C131 ;C131 C131 ;C131 C131 ;	0.988915	Q16270	3
LLEC*PHLNVR	C708 C708 ;C708 C708 C708 ;C708 C708 ;	0.987594	Q8TEX9	3
SPLPLGFSPVC*DPMDSK	C90 C90 C90 C90 ;X ;X ;	0.98399666 7	Q96EY5	2
AGQC*VIGLQMGTK	C185	0.98304687 5	B4DUT8	3
KFLDGNELTLADC*N	C178 ;X ;X ;	0.98264	O00299	2
HSC*IFPGQYNPSFISDESR	C1360 C244 ;C1360 C244 ;X ;	0.98081	Q9ULI3	2
LEGIPAYIVVPQTAPDC*KK	C113 ;C113 ;X ;	0.975215	Q9GZT4	2
VGLPIGQGGFGC*IYLADMNSSESVGSDAPCVVK	C50	0.97383625	Q99986	3
ERPC*SAIYPTPEVPSQR	C1756 C1732 C1723 C1732 ;C1756 C1732 C1723 C1732 ;C1756 C1732 C1732 ;	0.97305333 3	H0Y599	3
C*AVVDVPFGGAK	C5 C172 C39 ;C5 C172 C39 ;X ;	0.96693	P00367	2
DAVFDGSSC*ISPTIVQQFGYQR	C27 C27 C27 C27 C27 C27 ;C27 C27 ;X ;	0.964974	P04049	2
NFYGGNGIVGAQVPLGAGIALAC*K	C181 C219 C181 C219 ;C181 C219 C181 C219 ;C188 C181 C219 ;	0.96443666 7	P08559	3
C*ASQSGMTAYGTR	C196	0.96370714 3	B4DUT8	2
LFNC*SASLDWPR	C439 C397 C456 ;C439 C397 C456 ;X ;	0.953705	Q9Y4W2	2
RPDLDC*MAGLR	C225 C225 C225 C225 C225 ;X ;C225 C225 C225 C225 C225 ;	0.95347666 7	A8MST6	2
VMTIPYQPMPASSPVIC*AGGQDR	C194 ;X ;X ;	0.94932822 2	Q15365	3
STSQGFC*FNILCVGETGIGK	X ;C41 C41 C51 C41 C33 ;C41 C41 C51 C41 C33 ;	0.94607666 7		2
QGYDAAC*DIWSLGVLLYTMLTGYTPFANGPDDTPEEILAR	X ;C599 ;X ;	0.94340666 7		2
EGGGGISCVLQDGC*VFEK	C198 ;C198 C198 ;X ;	0.94273333 3	P36551	2
FVNEAVMCLQEGILATPAEGDIGAVFGLGFPPC*LGGPFR	C713 ;C713 ;C713 ;	0.94185333 3	P40939	3
MLGETC*ADCGTILLQDK	C53 C16 C47 ;X ;X ;	0.94106333 3	O60232	2
AIGAVPLIQGEYMIPC*EK	C329 ;X ;X ;	0.94038	P07339	2
AQLNIGNVLPVGTMPGIVC*CLEEKPGDR	C114 C114 C114 C114 ;C114 C114 C114 ;X ;	0.92509666 7	E9PKZ0	2
LNNLIC*DESDVKDLAFK	C361 C362 C361 C361 ;C362 ;C362 ;	0.92451	Q96EB1	3
ANDGGLAAGAPAMHMASYGPEPC*TDNSDSLIAK	C85 ;X ;C85 ;	0.92354666 7	O43823	2
C*TVFHGAQVEDAFR	C1828 ;C1828 ;C1828 ;	0.92313666 7	P49327	3

VIGVELC*PEAVEDAR	C463 C463 C481 ;C463 C463 C481 ;X ;	0.9164	Q8IZ69	2
VLVTQQFPC*QNPLPVNSGQAQR	C33 C33 ;C33 C33 C33 C33 ;X ;	0.915306	A3KFJ0	3
DNEVDFQEYC*VFLSCIAMMCNEFFEGFPDK	X ;C76	0.91351571 4		2
EGILQYCQEVYPELQITNVVEANQPVTIQNWC*K	C98 C98 C98 C93 C98 C63 C98 C98 C98 C98 C98 C98 C98 C98 C93 C98 C63 C98 C98 C98 C98 C98 ;X ;C98 C98 C98 C93 C98 C63 C98 C98 C98 C98 C98 ;	0.91237222 2	P05067	2
FFSLSSVDKLEQIYEC*TDTEVCIVER	C52 C70 C70 C52 ;X ;C52 C70 C70 C52 C52 C70 C70 C52 ;	0.9110375	Q9Y4P8	2
HEVTIC*NYEASANPADHR	C186 C187 C74 ;C186 C187 C74 ;C186 C187 ;	0.90617	Q9GZP4	3
ADLVISHAGAGSC*LETLEK	C98 C86 C86 C86 C86 C86 ;C98 C86 C86 C86 C86 C86 ;X ;	0.903985	A0A087WT T9	2
ALLVTASQC*QQPAENK	C92 C93 ;C92 C93 C92 C93 ;C93 ;	0.8988875	Q01518	3
VLSEC*SPLMNDIFNK	C623 ;X ;X ;	0.88825666 7	P53618	2
VMAEANHFIDLSQIPC*NGK	C610 C620 ;X ;C610 C620 C494 ;	0.88568666 7	O15294	3
TDPSEQVEGNC*EIVNELIAASTQK	C612 ;C612 ;X ;	0.88399	Q8NEM2	2
AFQNTATAC*APVSHYR	C51 ;C51 ;X ;	0.879795	Q9H814	2
LNDDWAYGNLDARPWDFQAEEC*ALR	C769 C674 ;X ;C769 C674 ;	0.87638	Q5VSL9	2
TPSVSAPLALSC*PR	C305 C305 ;C305 C305 ;X ;	0.87613	C9JRJ5	3
C*VESFSDYPLGR	C411 C411 C411 C411 C390 C390 ;X ;X ;	0.87426666 7	Q5VTE0	2
ALQLQIDSC*R	C330 ;C330 ;C330 C248 ;	0.87344	Q7L5Y1	3
C*LVGEFVSDVLLVPEK	C133 C143 C133 C133 C133 C118 C133 C143 C133 C133 C133 C118 ;C133 C143 C133 C133 C133 C133 C143 C133 C133 C133 ;X ;	0.8703	Q06481	2
ILAAALTEC*HR	X ;C169 ;C169 ;	0.86805		2
VGVDYEGGGC*R	C680 C727 ;C680 C727 ;X ;	0.86339	Q02809	2
ESESC*DCLQGFQLTHSLGGGTGSGMGTLLISK	C127 ;X ;X ;	0.85534	Q9BVA1	2
IVVEYCEPC*GFEATYLELASAVK	C33 C33 ;X ;C33 C33 ;	0.8551	Q9BRT3	2
SC*SLGSLGALGPACCR	C282 C261 ;C282 C261 ;X ;	0.85109	Q15633	2
LEEEDEDEEDGESGC*TFLVGLIQK	X ;C405 C405 ;C405 ;	0.84908		2
LPSPDC*PFPR	C148 ;C148 C148 ;C148 C148 ;	0.84762666 7	P29279	3
C*VAGYHGVC*SEEIDECLSHPCQNGGTCLDLPNTYK	X ;C1171 C1180 ; C1180 ;C1171	0.84626		2
LVYSTCSLC*QEENEDVVR	C362 C324 C362 C362 ;C362 C324 C362 C362 ;X ;	0.835685	Q96P11	2
ELLAWDPPQELQADAARLC*AFYAR	X ;C367 C366 ;X ;	0.827855		2

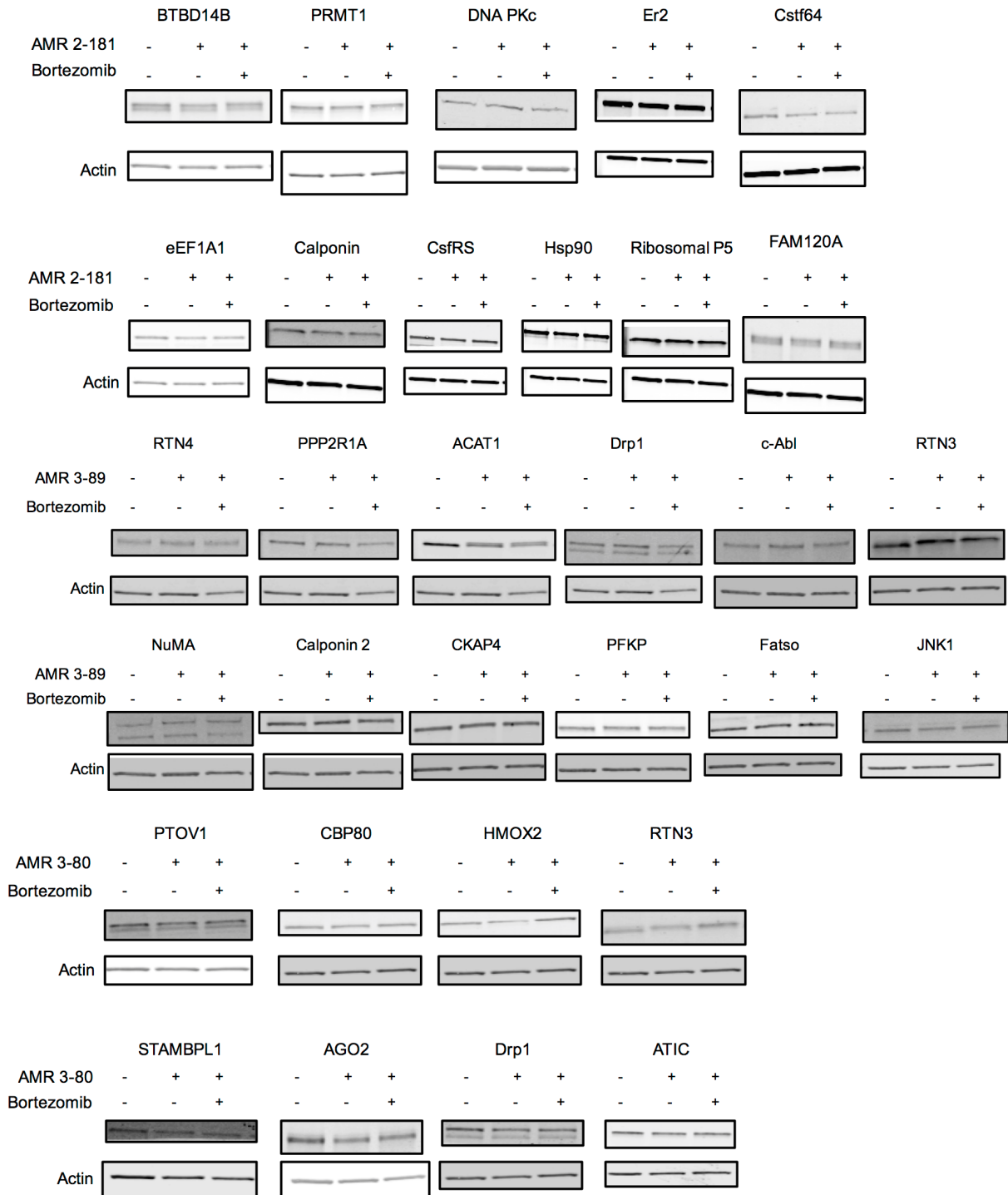
VNIHCPC*GLVTAFAVACEDGR	C139 ;X ;C139 ;	0.82189	Q96EM0	2
C*GVPDVAQFVLTEGNPR	C92 ;X ;X ;	0.81952	P03956	3
IISNASCTTNC*LAPLAK	C156 ;X ;X ;	0.813525	P04406	2
EGILSDEIYC*PPETAULLGSYAVQAK	C117 C117 C117 C117 C117 C117 ;C117 C117 ;C117 C117 ;	0.81095666 7	P15311	3
TSAPITC*ELLNK	C1999 ;C1999 ;C1999 ;	0.80967333 3	Q14204	3
AAGERDDVC*LSPGVWLSSEMDAVGLELPPVQIEEVIESF QVEK	C745	0.809655	Q86Y26	2
LASGC*DGSEIPDEVK	C525 C506 ;C525 C506 ;X ;	0.80599	Q9UEW8	2
C*ENCDCQLQGFQLTHSLGGGTGSGMGTLLISK	C471 C124 ;X ;X ;	0.80352375	A0A0B4J26 9	3
NC*LNPQFSK	C54 ;X ;X ;	0.80341	O75131	2
TGQYSGIYDC*AK	C330 C311 ;C330 ;X ;	0.800265	Q6NUK1	2
FLLADNLYC*K	C113 ;C113 C108 ;X ;	0.7920475	P61758	3
LESLQSMEMAHSGSLRDELCLDFPCDSPEK	C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 ;C388 C183 C259 C389 C394 C386 C321 C270 C388 C183 C259 C389 C394 C386 C321 C270 ;C388 C183 C259 C389 C394 C386 C321 C270 ;	0.789954	Q9NX95	3
VAGINAC*GR	C1803 C1872 C1917 C1916 ;X ;X ;	0.78182333 3	P51610	2
SEGGFIWAC*K	C269 C269 ;C269 ;X ;	0.77710333 3	O75874	2
MQMFQLHGDFEC*PVLDTFVMVAR	C134 C203 C161 C194 ;X ;C134 C203 C161 C194 ;	0.77385	Q9Y305	2
WQFDIEC*DK	C106 ;C106 ;C106 ;	0.77156333 3	Q13257	3
GGC*PGGEATLSQPPPR	C22 ;C22 ;X ;	0.768115	P20290	2
ILAVSFAPLIQPC*HSESGK	C223 C124 C223 C63 ;C223 C124 C223 C63 ;C63 ;	0.760868	F8W9F3	3
TQPNDNC*PFHDQPHLK	C109 ;C109 ;X ;	0.75925333 3	P01034	2
C*LAQEVNIPDWIVDLR	C140 C98 C140 ;C140 C98 C140 ;C140 C98 C140 ;	0.75535	Q9Y4W2	3
EEADQPPSC*GPEDDAQQLALSLSR	X ;C205 ;C205 ;	0.74956		2
THEDLYIIPINC*DR	C104 C204 C104 C204 ;C104 C204 ;C104 C204 ;	0.74757083 3	P22692	3
VVEPYNAVLSIHQLIENADAC*FC*IDNEALYDICFR	C201 ;X ; C201 ;C199 C199	0.74399	Q9H4B7	2
SVSPSASPVVC*YQSNRDEL	C78 C113 C113 ;C78 C113 C113 ;X ;	0.743655	Q12841	2
NIYYLC*APNR	C501 C448 ;C501 C448 ;X ;	0.739125	Q12931	2
TQVLSPATAGSSSDIAPLPPVTLVPPPPDTMSC*R	C57 ;C57 ;X ;	0.72835	Q13190	2
HC*DEVGFNAEEAHNIVK	C8 C8 ;C8 C8 ;X ;	0.728005	P51808	2
NVMMIQSC*K	C353 ;X ;X ;	0.71685	O00622	2
IC*ISGDSAGGNLAAALGQQFTQDASLK	C226 C218 C186 C194 C53 ;C226	0.71044	A0A0A0MT J9	2

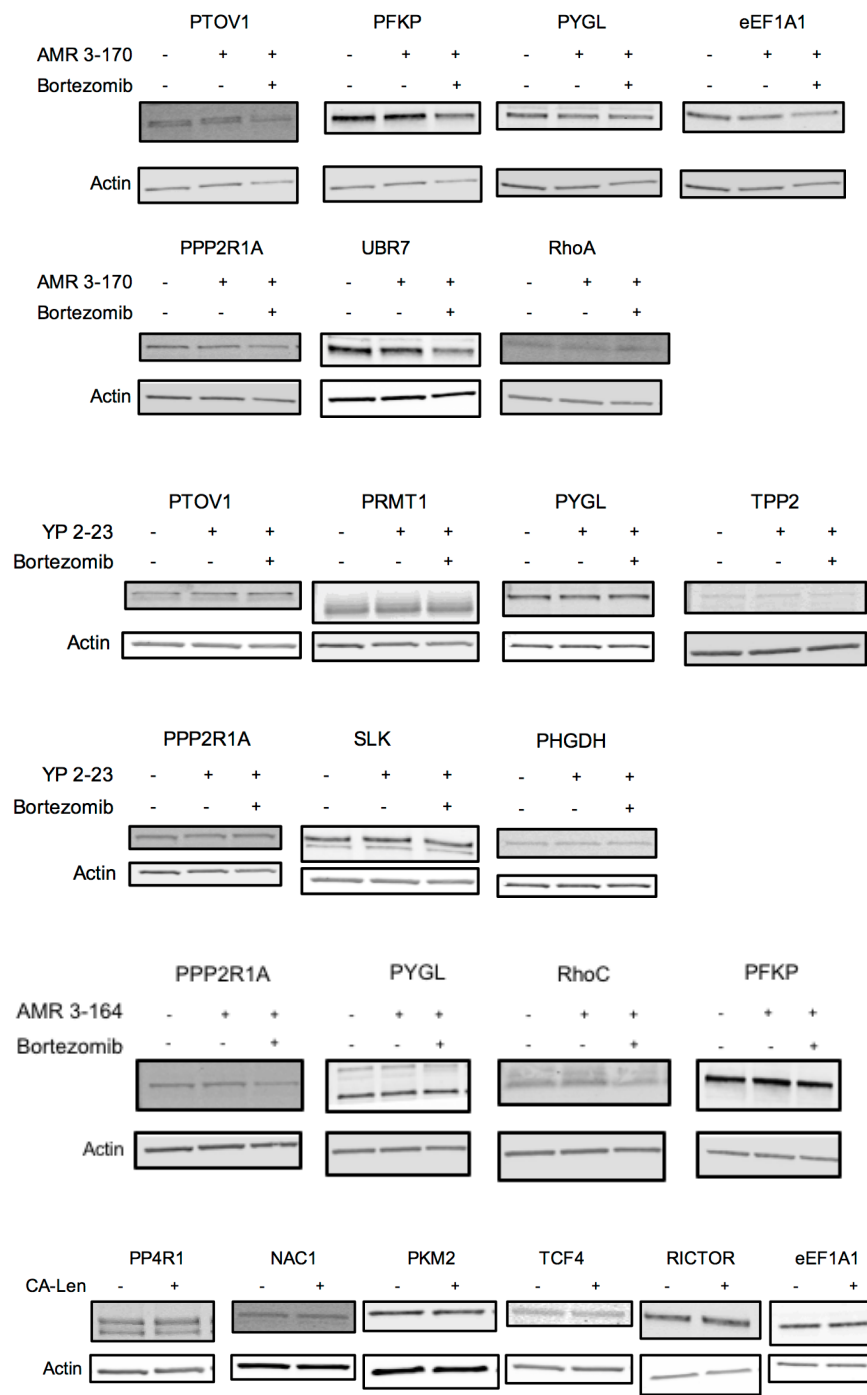
	C218 C217 C186 C194 ;X ;			
ELGAFGLQVPSELGGVGLC*NTQYAR	C156 C134 C179 ;C156 C134 C179 ;C156 C134 C179 ;	0.70956	P49748	3
HIEALLGSPC*GK	C81 ;X ;C81 ;	0.707075	P49589	2
EFC*SYLQYLEYLSQNRPPPNAYELFAK	C278 ;C278 ;C278 ;	0.70319	O14744	3
TREEEC*HFYAGGQVYPGEASR	C51 C51 ;C51 ;C51 ;	0.69936555 6	Q13162	3
EESPYC*VVCFETLFANTCEECKPIGCDCK	C28 C138 C144 ;X ;X ;	0.69633	Q14192	2
ADFNLADFEC*EEDPFDNLELK	C161 C225 C187 C197 C161 ;C161 C225 C187 C197 C161 ;X ;	0.693235	Q9NZ09	2
SNPENNVGLITLANDC*EVLTTLTPDTGR	C58 C43 C58 C58 C58 C43 C58 C58 ;C58 C43 C58 C58 ;C58 C43 C58 C58 ;	0.68112	P55036	3
LGTDESC*FNMILATR	C363 C341 ;C363 C341 ;C363 C341 ;	0.67521437 5	P20073	3
IWNVIYEENC*FKPQTIK	X ;C208 ;C208 ;	0.67196		2
ILDILGETC*K	C224 C225 C225 C225 C156 ;X ;C224 C225 C225 C225 C156 ;	0.66982	Q14151	2
LVSSPCC*IVTSTYGWTANMER	C590 ;X ;X ;	0.66354	P08238	3
GVTDEAC*LIEILASR	X ;C261 C294 ;X ;	0.661335		2
SQQEIC*EQLNINHMIQR	C79 C79 ;C79 C79 ;C79 ;	0.655785	Q14139	3
EDSEELGLPDVNPQC*QRPR	C1239 ;C1239 ;C1239 ;	0.65242333 3	Q52LW3	3
SC*FPSLFQAEQTHR	C183 ;C183 ;X ;	0.64267	P50336	2
LPCIFIC*ENNR	C222 C260 ;C222 C260 ;C229 C222 C260 ;	0.63082666 7	P08559	3
C*HDFQCALLANLFASEGQPGK	C149 C130 C130 C38 C38 ;C149 C130 C130 C38 C38 ;X ;	0.62342	Q9H0W9	2
C*SSFMAPPVTDLDELGR	C127 ;X ;X ;	0.622715	P36551	2
VFAEC*NDEFWFR	C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 ;X ;C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 C38 ;	0.62127333 3	D6RF07	2
EC*ENCDC*LQGFQLTHSLGGGTGSGMGTLISK	C57 ;C471 C129 C52 C129 ; X ;C471 C476 C124	0.621185		2
VAWSPC*GNYLASASFDATTCIWK	C72 C72 ;X ;C72 ;	0.614468	O76071	2
AWLHNSGTDQEIQHLLSSQC*FSNISR	C245 C245 C245 ;X ;X ;	0.61065	Q8TC57	2
CENC*DCLQGFQLTHSLGGGTGSGMGTLISK	C474 C127 ;X ;C474 C127 ;	0.61028	A0A0B4J26 9	3
APIIC*VLGHVDTGK	X ;C635 C635 ;C635 C635 ;	0.60364		2
SECCC*ANPDYGFGEPCQPCPAKNSAEFHGLCSSGVGI TVDGR	X ;C729 C730 C697 C697 ;C729 C730 C697 C697 ;	0.593025		2
LNTESPDRSACQSAVC*GPQSSTWAR	C212 ;X ;C212 ;	0.585685	Q96J88	2
RFQTIDIEPDIEALLSQGPSC*A	X ;C201 C202 ;X ;	0.58299666 7		2
C*PFGALSIVNLPNLEK	C65 C65 ;C65 ;C65 ;	0.57914	P61221	3
LSAPGC*WAACTNFSR	C12 C12 ;X ;X ;	0.54754	Q04941	3
LDSNRDNEVDFQEYC*VFLSC*IAMMCNEFFEGFPDK	C81 ;X ;X ; C76	0.538512	P26447	2

LC*VPAMNVNDSVTK	C272 C225 C260 C250 C353 C250 C352 ;C272 C260 C250 C353 C250 C352 C225 ;X ;	0.5239	O43865	2
PEMVVGWYHSHPGFGC*WLSGVDINTQQSFEALSER	C120 ;M107 C120 ;	0.51248666 7	O00487	3
GC*IEPGPGHWGELSR	X ;C17 ;X ;	0.511235		2
MLNYSAPSAGGC*LLDR	C40 C34 C12 C103 ;X ;X ;	0.49670333 3	G3V2P5	2
SC*LESVQPFLASILEELMGPVSSGFSEVR	C339 ;C339 C339 ;C339 C339 ;	0.49162	Q9BZQ8	3
QLC*DNAGFDATNILNK	C450 ;X ;X ;	0.49063	Q99832	2
AVDALLTHC*K	C47 C47 C47 ;C46 C13 C47 C47 C47 ;C47 C47 C47 ;	0.4877175	J3QSV6	3
ESTGNMVTGQTVK*K	C596 ;C596 ;X ;	0.47442	Q15021	2
VVEPYNATLSIHQLVENTDETYC*IDNEALYDIC*FR	C211 ;X ;C548 C211 ; C558 C201 C548 C211 C548	0.46205181 8	A0A0B4J26 9	3
LSDGSHC*PIILCGDLNSVPDSPLYNFIRDGELQYHGMPA WK	C426 ;X ;C426 C426 ;	0.45985666 7	Q9UNK9	2
ASHLLETLLC*K	C411 C411 ;C411 C411 ;C411 C411 ;	0.45578	Q03701	3
MWQALTLLFSLIPC*ALVQLTLLFVHRDLR	C48 ;M35 C48 ;X ;	0.45282	P51811	2
ETVSEESNVLC*LSK	X ;C591 ;C591 ;	0.45275		2
EVEVIGGADKYHSVC*R	C185 ;C185 ;C185 ;	0.42803	P04183	3
VPADTEVVC*APPTAYIDFAR	C42 C79 ;C42 C79 ;C42 C79 ;	0.42402	P60174	3
TLC*GTPNYIAPEVLSK	C212 ;C212 ;X ;	0.415705	P53350	2
NPVSQC*MR	C50 C50 C50 C50 C50 ;X ;X ;	0.415645	A0A087X26 0	2
HPSAVTAC*NLDLENLVTDNR	C325 ;C325 C325 ;X ;	0.41403	Q9Y678	2
LEC*NGVISAHCNLC*LPAICVIGSADGTT	C35 C46 ;C35 C46 ;X ;	0.393005	F8VZR4	2
ADPTWAVSQISGSPWQTATQTPTAPVQCC*GAHR	C546 C60 ;C546 C60 ;X ;	0.3893	E9PJZ7	2
AC*GNFGIPCELR	C288 ;C288 C288 ;C288 ;	0.3829425	P22234	3
NDQSC*EIMLNHLATAR	C737 ;C646 C737 ;X ;	0.367165	O75815	2
NIFLVAATLRPETMFGQTNC*WVR	C305 C251 ;C305 C251 ;X ;	0.34848	Q9P2J5	2
MYSSPLC*LTQDEFHPFIEALLPHVR	C7 C7 C7 ;X ;C7 C7 C7 ;	0.34347333 3	P08651	2
VGLC*PGLTEEMIQLLR	C9 C9 C9 C9 C9 C9 C9 C9 C9 ;X ;C9 C9 C9 C9 C9 C9 C9 C9 C9 ;	0.341785	O75771	2
QLAPGMVQQMQSVC*SDCNGEGEVINEK	C186 M99 C103 ;X ; C103 ;M182	0.339325	O60884	2
EGGVIVDYHGC*DFFPER	C81 C78 ;X ;C81 C78 C81 ;	0.3357275	Q9Y3D8	2
RWC*PAGIMLLALVCLLSCLLPSSSEAK	C65 ;X ;C65 ;	0.33536	Q8IXA5	2
C*IPEIDDSEFCIR	C168 ;X ;X ;	0.3340325	Q969U7	2
C*HRCASMC*AVCHHVVK	C873 C736 C743 C866 C743 ;X ; C866 C743 ;C866	0.33175666 7	Q96S15	2
KQC*QQLQTAIAEAQR	C383 ;C383 ;C383 C383 C383 ;	0.3170875	Q5XKE5	3
LGC*YEQALELFPDDEVICNSMGEHLFR	C89 ;X ;C89 ;	0.28853	Q6P2P2	2
LGDVGMAELC*PGLLHPSSR	C248 ;X ;X ;	0.287485	P13489	2
AVILDLLQEALTESGLTSQDIDC*I	C73 ;C73 ;X ;	0.28408	Q9NPF4	2
LQSAMALFAC*KTLGLK	C3695 M3697 C3702 ;M3690 C3702 ; C88	0.281178	H0YDE0	3

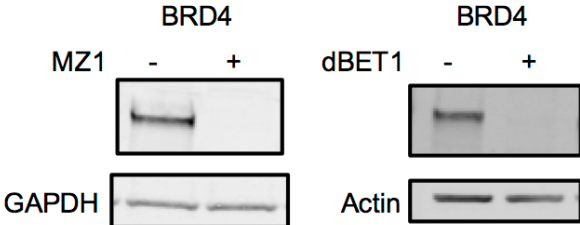
	M3690 C3702 M83 C3702 M3690			
PFC*EDLDQWLSEDDNHVAAIHC*KAGK	C90 C278 C297 C90 C109 C278 C105 C297 ;C105 C124 C71 C297 ;X ;	0.24564	P60484	2
VFEAEQFGC*PQR	C215 C215 ;X ;C215 ;	0.24324333 3	Q8NFG4	2
GLYAAFDC*TATMK	C850 ;X ;C850 ;	0.23974	P11498	2
YGDLDSSLISFGPC*QTPTLGFCVER	C217 C217 C217 C217 ;X ;C217 C217 C217 C217 ;	0.23284	C9JEI7	2
FSNPYSIEYSELDC*EEGWTQLK	C140 ;X ;C140 ;	0.2204	O14879	2
QLAPGMVQQMQSVCSDC*NGEGEVINEK	C106 M182 C106 ; C189 M99 C106 ;M182	0.2136275	O60884	3
AVAI PVFANGNIQCLQDVERC*LR	C220 C220 C88 C203 C220 ;X ;C220 C220 C88 C203 C220 ;	0.16907	J3QQZ0	2
KESESC*DC*LQGFQLTHSLGGGTGSGMGTLLISK	C129 ;X ;X ; C127	0.16823125	Q9BVA1	3
DLGGIVLANAC*GPCIGQWDRK	X ;C448 C473 ;C448 C473 ;	0.155605		2
YYPTEVDFLQGDC*TK	C306 C336 ;C306 C336 ;X ;	0.14935	O60547	2
GRSC*EDINECSSSPCSQECANVYGSYQCYCR	C439 C477 C439 C439 C439 ;X ;C439 C477 C439 C439 C439 C439 C477 C439 C439 C439 ;	0.14061	P23142	2
ECENC*DC*LQGFQLTHSLGGGTGSGMGTLLISK	C474 C129 ;X ;X ; C476 C127	0.136098	A0A0B4J26 9	3
ASFENNCEIGC*FAK	C15 ;C15 ;C15 ;	0.129752	P56537	3
WLPSAGEAAWSSSTC*SPPSTTAMLTASMATLTR	C156	0.11844	MOR1N9	2
VGVTVAQTTMEPHLLEAC*VR	X ;C556 ;C556 C76 ;	0.109865		2
C*NPGFSSFSEIITPTETCDDINECATPSK	C44 C44 C44 ;C44 C44 C44 ;X ;	0.10865	P48960	2
GMAC*AISILMKDLADELALVDVIEDK	X ;M33 C35 M62 C64 ;X ;	0.10801		2
RAC*LSGGTQR	C70 C70 ;X ;C70 C70 ;	0.10279	C9JP01	2
QSRTC*STQVC*R	X ;C3688 C3693 C3687 C3692 ; C3692 ;C3688	0.094245		2
DLGGIVLANACGPC*IGQWDRK	C451 C476 ;X ;C451 C476 ;	0.092975	Q99798	2
PNPRPVFGIC*LGHQLLALAIGAK	C252 ;C252 C252 ;C252 C252 ;	0.08975666 7	P27708	3
SSLRAGGGGGGGGGGGGGGGGAPVC*GASGLC*K	C127 ;C121 X ;C121 C127 ; C127 C121	0.03132333 3		2
VFANPEDC*VAFGK	C14 C50 ;X ;C14 C50 ;	0.02837	F5H760	2
HIIEDPC*TLR	C1832 C1823 C1832 ;C1832 C1823 C1832 ;C1832 C1823 C1832 ;	0.02819333 3	Q7Z6Z7	3
LLTEC*PPMMDTEYTK	C853 ;X ;C853 ;	0.02378	P55060	2
IIGATDSC*GDLMLMK	C133 ;X ;C133 ;	0.021695	P45973	2
ESNINLC*GSHC*GVSIGEDGPSQMALEDLAMFR	C417 ;X ; C421 C417 ;C421 C425 C413	0.01186	P29401	3
C*PEALFQPCFLGMESCGIHETTFFNSIMK	C957 C957 C957 C957 C957 C957 ;C957 C957 C957 ;X ;	0.01122666 7	Q6S8J3	2
AEC*TEESIVEQTYAPAECVSAIDINEPIGNLKK	C22 ;X ;C22 ;	0.00905	Q06546	2
SAGDLGIAVCNVAASVEETADSTLC*HILNLYR	C123 C134 C123 C134 ;C123 C134 ;X ;	0.005646	Q13363	2
C*VGLSAPQLGVPR	C108 ;X ;X ;	0.003255	Q9HBH1	2

Appendix 3-3. Western Blot Validation of isoTOP-ABPP Analysis of Cysteine Reactive Covalent Degraders





Appendix 3-4. Validation of CRBN and VHL Activity in 231MFP Breast Cancer Cells



Appendix 3-5. Antibodies used for degrader validation

Antibody Name	Company	Cat. #
β-actin	Cell Signaling	13E5
PTOV1	Abcam	ab81173
CBP80	Santa Cruz Biotechnologies	sc-271304
HMOX2	Santa Cruz Biotechnologies	sc-17786
RTN3	Santa Cruz Biotechnologies	sc-374599
STAMBPL1	Santa Cruz Biotechnologies	sc-376526
AGO2 (eIF2C)	Santa Cruz Biotechnologies	sc-376696
Drp1	Santa Cruz Biotechnologies	sc-101270
ATIC (AICAR transformylase)	Santa Cruz Biotechnologies	sc-53612
RTN4 (NogoA)	Cell Signaling	13401S
PPP2R1A	Cell Signaling	81G5
ACAT1	Santa Cruz Biotechnologies	sc-517387
Akt1	Santa Cruz Biotechnologies	sc-5298
c-Abl	Santa Cruz Biotechnologies	sc-56887
NuMA	Santa Cruz Biotechnologies	sc-365532
Calponin 2	Santa Cruz Biotechnologies	sc-373967
CKAP4	Santa Cruz Biotechnologies	sc-393544
PFKP	Santa Cruz Biotechnologies	sc-514824
Fatso	Santa Cruz Biotechnologies	sc-271713
JNK1	Santa Cruz Biotechnologies	sc-1648
PYGL	Abcam	GR282910
eEF1A1	Cell Signaling	2551
UBR7	Abcam	GR316920
RhoA	Cell Signaling	2117S
PRMT1	Santa Cruz Biotechnologies	sc-166963
TPP2	Abcam	ab195645
SLK	Cell Signaling	41255
PHGDH	Cell Signaling	D8F30
PP4R1	Abcam	GR178856
NAC1	Cell Signaling	4420S
PKM2	Cell Signaling	3198S
TCF4	Abcam	GR3213025
RICTOR	Cell Signaling	9476S
BRD4	Abcam	ab128874
RhoC	Cell Signaling	3430S

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