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UC Comments on AAALAC International's Draft Position Statement on "The 3Rs"

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Comments on AAALAC The 3Rs Position Statement

The University of California (UC) system – comprised of ten campuses, six academic health centers, the Lawrence Berkeley National Laboratory, and the Lawrence Berkeley National Laboratory, and an Agriculture and Natural Resources division, appreciates the opportunity to comment on the AAALAC International's draft new Position Statement on "The 3Rs."

We provide the following comments for your consideration:

1. First paragraph, second sentence:

"Replacement of animals (absolute replacement) must be considered where non-animal models exist that are accepted by the scientific and, where applicable, regulatory communities."

UC recommends using the phrase "scientifically validated" to describe the types of non-animal models that should be considered as a replacement for animal models. While the use of in vitro tools should always be considered as a potential replacement for the use of animal models, many of these tools have yet to be decisively validated as methods that can accurately provide the needed essential research data. Our recommendation for this sentence is as follows:

"Replacement of animals (absolute replacement) must be considered where scientifically validated non-animal models exist that are accepted by the scientific and, where applicable, regulatory communities."

2. First paragraph, third sentence:

"Examples may include validated, reliable and fit for purpose cell culture systems (including microphysiological systems), environmental health monitoring, computer modeling, simulation systems and other in vitro tests."

All of the examples of 3R approaches described in this Position Statement can be applied to research or teaching activities involving laboratory animals. However, only a few of the listed examples for reduction can also be applied to activities involving wildlife. UC recommends including an example of replacement that can be applied specifically to the use of wildlife animal models. We recommend adding camera trapping in field settings as follows:

"Examples may include validated, reliable and fit for purpose cell culture systems (including microphysiological systems), environmental health monitoring, computer modeling, simulation systems and other in vitro tests, as well as camera trapping in field settings."

3. Second paragraph, first sentence:

"Once it has been determined that animal use is necessary in science or education, then reduction techniques must be applied to support research rigor and reproducibility while minimizing the number of animals necessary to answer the scientific question (e.g., fit for purpose experimental design, statistics and analysis practices)."

UC recommends rephrasing the way the Statement proposes reduction techniques be used. It currently states that "reduction techniques must be applied to support research rigor and reproducibility..." Use of the phrase "must be applied" indicates that reduction techniques are required, regardless of other considerations. We recommend replacing the word "applied" with "considered." This not only allows institutions to determine whether or not reduction techniques are appropriate for a particular animal activity, it also mirrors the language used in the Statement for the use of replacement and refinement techniques. Our recommendation for this sentence is as follows:

"Once it has been determined that animal use is necessary in science or education, then reduction techniques must be considered in order to minimize the number of animals necessary to answer the scientific question (e.g., fit for purpose experimental design, statistics and analysis practices), while taking into consideration research rigor and reproducibility."

4. Third paragraph, second sentence:

"Examples of refinement may include adherence to social housing, provision of biologically relevant enrichment, acclimation, habituation and other welfare improvements to experimental procedures, housing, and handling."

All of the examples of 3R approaches described in this Position Statement can be applied to research or teaching activities involving laboratory animals. However, only a few of the listed examples for reduction can also be applied to activities involving wildlife. UC recommends including an example of refinement that can be applied specifically to the use of wildlife animal models, such as non-invasive sampling. Our recommendation for this sentence is as follows:

"Examples of refinement may include non-invasive sampling methods, adherence to social housing, provision of biologically relevant enrichment, acclimation, habituation and other welfare improvements to experimental procedures, housing, and handling."

5. Fourth paragraph, third sentence:

"The Institutional Official, the Attending Veterinarian, and the IACUC/OB should promote and advise on the principles of the 3Rs including the protocol review process, and all research groups and IACUC/OB members should receive regular training in the concepts of the 3Rs."

UC recommends minor revisions to this sentence to clarify that all institutionally affiliated persons involved in the use and care of animals (as opposed to "all research groups") should receive 3Rs training as appropriate. We believe the content and frequency of such training should be determined by the institution based on regulatory requirements and institutional needs. Our recommendation for the sentence is as follows:

"The Institutional Official, the Attending Veterinarian, and the IACUC/OB should promote and advise on the principles of the 3Rs including during the protocol review process, and all institutionally affiliated persons involved in the use and care of animals should receive training in the concepts of the 3Rs as appropriate."

Thank you for the opportunity to comment on the draft of AAALAC International's Position Statement on "The 3Rs." UC appreciates AAALAC's continuing efforts to ensure the health and well-being of animals used for research and teaching. We look forward to continued engagement on this important issue.