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Amino acid synthesis pathways in *Desulfovibrio vulgaris*

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Several steps in amino acid synthesis pathways are not annotated in the *Desulfovibrio vulgaris* genome. We computationally predicted several new reactions, including isoleucine synthesis via citramalate synthase (DVU1914), methionine synthesis via a potential bifunctional cystathionine gamma-synthase and beta-lyase (DVU0171), synthesis of alpha-ketoglutarate and glutamate via an Re-citrate synthase (DVU0398), and synthesis of chorismate and aromatic amino acids via an archaeal-like transaldolase and 3-dehydroquinate cyclase/deaminase (DVU0460, DVU0461). We are using genetic knockouts and complementation assays to test these predictions.

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