

Amino Acid Dehydrogenases (AADHs)

Amino acid dehydrogenases (AADHs) catalyze the reversible reductive amination of keto acids to produce amino acids, using ammonia as the amine source and NAD(P)H as a cofactor. These enzymes enable the direct formation of chiral amines from corresponding carbonyl precursors under mild and environmentally friendly conditions – offering a highly efficient biocatalytic alternative to multi-step chemical synthesis routes.

By integrating AADHs into bioprocesses, amine production can be achieved with high regioselectivity, stereoselectivity, and atom economy, supporting scalable and sustainable manufacturing of pharmaceutical intermediates, nutraceuticals, and fine chemicals.

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Product Overview

At Allozymes, we advance amino acid dehydrogenase engineering to deliver enzymes with enhanced substrate scope, improved catalytic efficiency, and optimized cofactor utilization. Our AADH panels are designed to perform reliably across a range of keto acid substrates, enabling efficient synthesis of both natural and non-natural amino acids under mild, aqueous conditions.

Leveraging our proprietary microfluidics and data-driven enzyme discovery platform, we identify and evolve AADHs with superior performance tailored to industrial requirements. The result is a robust, scalable, and sustainable biocatalytic route to natural and non-natural amino acids, improving process efficiency and reducing environmental impact compared to conventional chemical methods.

Product Specifications

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| Product Name | Amino Acid Dehydrogenase |
| Applications | Biocatalysis, Biomanufacturing |
| Form | Freeze-dried powder |
| Storage | -20°C |

Allozymes also offers a range of specialized enzymes for research and industrial applications. Get in touch with us to explore the right enzyme solution for your project.