

L-glutamate γ -semialdehyde dehydrogenase

Cat. No. EXWM-1191

Lot. No. (See product label)

Introduction

Description This enzyme catalyses the irreversible oxidation of glutamate- γ -semialdehyde to glutamate as part of the proline degradation pathway. (S)-1-pyrroline-5-carboxylate, the product of the first enzyme of the pathway (EC 1.5.5.2, proline dehydrogenase) is in spontaneous equilibrium with its tautomer L-glutamate γ -semialdehyde. In many bacterial species, both activities are carried out by a single bifunctional enzyme. The enzyme can also oxidize other 1-pyrrolines, e.g. 3-hydroxy-1-pyrroline-5-carboxylate is converted into 4-hydroxyglutamate and (R)-1-pyrroline-5-carboxylate is converted into D-glutamate. NADP⁺ can also act as acceptor, but with lower activity.

Synonyms 1-pyrroline-5-carboxylate dehydrogenase; Δ 1-pyrroline-5-carboxylate dehydrogenase; 1-pyrroline dehydrogenase; pyrroline-5-carboxylate dehydrogenase; pyrroline-5-carboxylic acid dehydrogenase; L-pyrroline-5-carboxylate-NAD⁺ oxidoreductase; 1-pyrroline-5-carboxylate:NAD⁺ oxidoreductase; Δ 1-pyrroline-5-carboxylic acid dehydrogenase

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.2.1.88

CAS No. 9054-82-4

Reaction L-glutamate 5-semialdehyde + NAD⁺ + H₂O = L-glutamate + NADH + H⁺

Notes This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage Store it at +4 °C for short term. For long term storage, store it at -20 °C~-80 °C.