Creative Enzymes®

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; Δ1-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; Δ1-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 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.