Creative Enzymes®

Native Thermoactinomyces intermedius Phenylalanine Dehydrogenase

Cat. No. NATE-1906

Lot. No. (See product label)

Introduction

Description	Phenylalanine dehydrogenase is a member of a large family of amino-acid dehydrogenases, which includes glutamate dehydrogenase, alanine dehydrogenase, leucine dehydrogenase, lysine €-dehydrogenase, and meso-a,€-diaminopimelate D-dehydrogenase. The three known gene sequences are octomers. It has a two-domain, three-dimensional structure.
Synonyms	phenylalanine dehydrogenase; EC 1.4.1.20; L-phenylalanine dehydrogenase; PHD; 69403-12-9

Product Information

Source	Thermoactinomyces intermedius
Appearance	Ammonium sulphate suspension
EC Number	EC 1.4.1.20
CAS No.	69403-12-9
Molecular Weight	ca. 380,000; Subunit molecular weight : ca. 40,000.
Specific Activity	more than 30 U/mg protein
Contaminants	(as PheDH activity = 100 %) NADH oxidase: < 0.01 %; Lactate dehydrogenase: < 0.01 %.
pH Stability	5.0 - 10.0
Optimum pH	11.5
Thermal stability	No detectable decrease in activity up to 50 °C.
Michaelis Constant	(200 mM Gly-KCl-KOH buffer, pH 11.0, at 30 °C) L-Phenylalanine: 0.66 mM; NAD+: 0.05 mM.
Specificity	L-Phenylalanine: 100 %; L-Tyrosine: 7.6 %; L-Methionine: 1.5 %.
Unit Definition	One unit of activity is defined as the amount of PheDH that forms 1 µmol of NADH per minute at 30 °C.
Reaction	L-Phenylalanine + NAD+ + H2O ←→ Phenylpyruvate + NH4+ + NADH

Storage and Shipping Information

Storage	Stable at 0 to 4 °C for at least six months (Do not freeze).