

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 ϵ -dehydrogenase, and meso- α,ϵ -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 μ mol of NADH per minute at 30 °C.

Reaction L-Phenylalanine + NAD⁺ + H₂O \leftrightarrow Phenylpyruvate + NH₄⁺ + NADH

Storage and Shipping Information

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