

Native *Bacillus stearothermophilus* Alanine Dehydrogenase

Cat. No. NATE-1899

Lot. No. (See product label)

Introduction

Description L-Alanine dehydrogenase is a stereospecific dehydrogenase that catalyzes the reversible deamination of L-alanine to pyruvate and ammonium. It is important for the generation of pyruvate during sporulation.

Applications The enzyme is useful for determination of L-alanine.

Synonyms L-Alanine Dehydrogenase; Alanine dehydrogenase; EC 1.4.1.1; 9029-06-5; AlaDH; NAD⁺-linked alanine dehydrogenase; alpha-alanine dehydrogenase; NAD⁺-dependent alanine dehydrogenase; alanine oxidoreductase; NADH-dependent alanine dehydrogenase

Product Information

Source *Bacillus stearothermophilus*

Appearance Lyophilized

EC Number EC 1.4.1.1

CAS No. 9029-06-5

Molecular Weight ca. 230,000; Subunit molecular weight : ca. 38,000.

Specific Activity more than 55 U/mg protein

Contaminants (as AlaDH activity = 100 %) NADH oxidase: <0.01 %; Lactate dehydrogenase: <0.10 %.

pH Stability 7.0 - 11.5

Optimum pH 10.4

Thermal stability No detectable decrease in activity up to 70 °C.

Michaelis Constant (125 mM Glycine-NaOH buffer, pH 10.5, at 30 °C) L-Alanine: 10.0 mM; NAD⁺: 0.26 mM.

Specificity L-Alanine: 100 %; L-Leucine: 0 %; L-Isoleucine: 0 %.

Unit Definition One unit of activity is defined as the amount of AlaDH that forms 1 μmol of NADH per minute at 30 °C.

Reaction L-Alanine + NAD⁺ + H₂O ↔ Pyruvate + NH₄⁺ + NADH

Storage and Shipping Information

Storage Stable at -20 °C for at least one year.