

Alanine Dehydrogenase from *Bacillus cereus*, Recombinant

Cat. No. NATE-0044

Lot. No. (See product label)

Introduction

Description

L-Alanine dehydrogenase is an 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. L-Alanine dehydrogenase from *Bacillus subtilis* has a predominately ordered kinetic mechanism in which NAD binds before L-alanine. Subsequently, ammonia, pyruvate, and NADH are released in that specific order. Optimal pH for the amination reaction is 8.8-9.0, whereas it is 10-10.5 for the deamination reaction. The enzyme is inactivated by divalent metal ions and p-chloromercuribenzoate, mercuric ion being most effective. The inactivation may be reversed by L- or D-cysteine.

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

Species

Bacillus cereus

Source

E. coli

EC Number

EC 1.4.1.1

CAS No.

9029-06-5

Activity

> 350 units/ml

Unit Definition

1 U corresponds to the amount of enzyme which converts 1 µmol L-alanine per minute at pH 10.0 and 30°C (NAD⁺ as cofactor).

Storage and Shipping Information

Storage

-20°C