D-3-hydroxybutyrate dehydrogenase from Microorganism

Cat. No. NATE-1714

Lot. No. (See product label)

Introduction

Description	In enzymology, a 3-hydroxybutyrate dehydrogenase (EC 1.1.1.30) is an enzyme that catalyzes the chemical reaction: (R)-3-hydroxybutanoate + NAD+ ↔ acetoacetate + NADH + H+. Thus, the two substrates of this enzyme are (R)-3-hydroxybutanoate and NAD+, whereas its three products are acetoacetate, NADH, and H+. This enzyme belongs to the family of oxidoreductases, to be specific, those acting on the CH-OH group of donor with NAD+ or NADP+ as acceptor. This enzyme participates in synthesis and degradation of ketone bodies and butanoate metabolism.
Synonyms	(R)-3-hydroxybutanoate: NAD+ oxidoreductase; NAD+-beta-hydroxybutyrate dehydrogenase; hydroxybutyrate oxidoreductase; beta-hydroxybutyrate dehydrogenase; D-beta-hydroxybutyrate dehydrogenase; D-3-hydroxybutyrate dehydrogenase; D-(–)-3-hydroxybutyrate dehydrogenase; beta-hydroxybutyric acid dehydrogenase; 3-D-hydroxybutyrate dehydrogenase; beta-hydroxybutyric dehydrogenase; EC 1.1.1.30

Product Information

Source	Microorganism
Form	Yellowish powder, lyophilized
EC Number	EC 1.1.1.30
CAS No.	9028-38-0
Molecular Weight	27.5 kDa (SDS-PAGE)
Activity	>1500U/mg protein
Isoelectric point	7.25
pH Stability	7.0~10.0 (25℃, 2 hr)
Optimum pH	8
Thermal stability	< 37℃(pH 8.5, 30min)
Optimum temperature	6 ℃
Michaelis Constant	2.1 ×10^-3 M (D-3-Hydroxybutyrate)
Inhibitors	Zn2+, Cu2+, Fe3+
Unit Definition	One unit converts one micromole of 3- Hydroxybutylate to acetoacetate per min at pH 8.5 at 37℃.
Notes	INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.

Storage and Shipping Information

Storage	Store at -20°C

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