

## Prokaryotic 3-Hydroxybutyrate dehydrogenase, Recombinant

Cat. No. NATE-1099

Lot. No. (See product label)

### Introduction

**Description** In enzymology, 3-hydroxybutyrate dehydrogenase (EC 1.1.1.30) is an enzyme that catalyzes the chemical reaction: (R)-3-hydroxybutanoate + NAD<sup>+</sup>  $\rightleftharpoons$  acetoacetate + NADH + H<sup>+</sup>. Thus, the two substrates of this enzyme are (R)-3-hydroxybutanoate and NAD<sup>+</sup>, whereas its three products are acetoacetate, NADH, and H<sup>+</sup>. This enzyme belongs to the family of oxidoreductases, to be specific, those acting on the CH-OH group of donor with NAD<sup>+</sup> or NADP<sup>+</sup> as acceptor. This enzyme participates in the synthesis and degradation of ketone bodies and the metabolism of butyric acid.

**Synonyms** 3-hydroxybutyrate dehydrogenase; 3-HBDH; 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; 9028-38-0

### Product Information

**Source** Microorganism

**Form** Liquid

**EC Number** EC 1.1.1.30

**CAS No.** 9028-38-0

**Molecular Weight** ~ 29kD

**Activity** ~ 140 U/mg protein

**Unit Definition** One Unit is defined as the amount of enzyme required to oxidise one  $\mu$ mole of D- $\beta$ -hydroxybutyric acid per minute in the presence of NAD<sup>+</sup> in Tris-HCl buffer at pH 8.0 and 25°C.

### Storage and Shipping Information

**Storage** 4°C