Creative Enzymes®

Native Rhodopseudomonas sphaeroides β-Hydroxybutyrate Dehydrogenase

Cat. No. NATE-0004

Lot. No. (See product label)

Introduction

Description	In mammalian systems, β-hydroxybutyrate dehydrogenase is localized on the inner mitochondrial membrane and requires phosphatidyl choline for activity. In contrast, the enzyme from Pseudomonas is a soluble cytosolic enzyme that does not require a phospholipid allosteric activator. The enzyme is required for the utilization of ketone bodies as a source of metabolic energy. It catalyzes the oxidation of 3-hydroxybutyrate to acetoacetate, the first step in the conversion of ketone bodies to citric acid, which is then further metabolized via the tricarboxylic acid cycle (Krebs cycle).
Applications	Suitable for the determination of acetoacetate and D (-)-3-hydroxybutyrate by the method of Williamson, D. H., and Mellanby, J., Methods of Enzymatic Analysis, Bergmeyer, H., ed., 2nd edition, 4, 1836 (1974).
Synonyms	3-hydroxybutyrate dehydrogenase; 3-HBDH; NAD-β-hydroxybutyRate dehydrogenase; hydroxybutyRate oxidoreductase; β-hydroxybutyRate dehydrogenase; D-β-hydroxybutyRate dehydrogenase; D-3-hydroxybutyRate dehydrogenase; D-(–)-3-hydroxybutyRate dehydrogenase; β-hydroxybutyric acid dehydrogenase; 3-D-hydroxybutyRate dehydrogenase; β-hydroxybutyric dehydrogenase; EC 1.1.1.30; 9028-38-0

Product Information

Source	Rhodopseudomonas sphaeroides
Form	Lyophilized powder containing Tris buffer salts
EC Number	EC 1.1.1.30
CAS No.	9028-38-0
Activity	250-750 units/mg protein
Unit Definition	One unit will oxidize 1.0 µmole of D-β-hydroxybutyrate to acetoacetate per min at pH 7.8 at 37°C.

Storage and Shipping Information

Storage	−20°C