

Recombinant Human 3-Hydroxybutyrate Dehydrogenase, Type 1, His-tagged

Cat. No. BDH1-1560H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human BDH1 protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography.
Species	Human
Source	E.coli
Description	BDH1 is a member of the short-chain dehydrogenase/reductase gene family. This protein forms a homotetrameric lipid-requiring enzyme of the mitochondrial membrane and has a specific requirement for phosphatidylcholine for optimal enzymatic activity. It catalyzes the interconversion of acetoacetate and (R)-3-hydroxybutyrate, the two major ketone bodies produced during fatty acid catabolism.
Form	Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 30% glycerol, 0.2M NaCl, 2mM DTT, 0.1mM PMSF.
Molecular Weight	35.3 kDa (318aa), confirmed by MALDI-TOF.
Purity	> 85% by SDS-PAGE
Concentration	0.25 mg/ml (determined by Bradford assay)
Sequences of amino acids	MGSSHHHHHH SSGLVPRGSH MASAAEPVGS KAVLVTGCDS GFGFSLAKHL HSKGFLVFAG CLMKDKGHDG VKELDSLNSD RLRTVQLNVCSSSEEVEKVVE

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IVRSSLKDPE KGMWGLVNNA GISTFGEVEF TSLETYKQVA EVNLWGTVRM
 TKSFLPLIRR AKGRVNNISS MLGRMANPARSPYCITKFGV EAFSDCLRYE
 MYPLGVKVSU VEPGNFIAAT SLYSPESIQ AAKKMWEELP EVVRKDYGKK
 YFDEKIAKME TYCSSGSTDTSPVIDAVTHA LTATTPYTRY HPMDYYWWLR
 MQIMTHLPGA ISDMIYIR

Storage

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

Pathways

Butanoate metabolism; FOXA2 and FOXA3 transcription factor networks; Fatty acid, triacylglycerol, and ketone body metabolism; Ketone body metabolism; Metabolic pathways; Metabolism of lipids and lipoproteins; Synthesis and Degradation of Ketone Bodies; Synthesis of Ketone Bodies; Utilization of Ketone Bodies

GENE INFORMATION

Gene Name

[BDH1 3-hydroxybutyrate dehydrogenase, type 1 \[Homo sapiens \]](#)

Official Symbol

[BDH1](#)

Synonyms

BDH1; 3-hydroxybutyrate dehydrogenase, type 1; SDR9C1; MGC2723; MGC4347; MGC9788; D-beta-hydroxybutyrate dehydrogenase, mitochondrial; OTTHUMP00000208056; OTTHUMP00000208057; OTTHUMP00000208058; OTTHUMP00000208059; (R)-3-hydroxybutyrate dehydrogenase; 3-hydroxybutyrate dehydrogenase (heart, mitochondrial); short chain dehydrogenase/reductase family 9C, member 1; EC 1.1.1.30; BDH

Gene ID

[622](#)

mRNA Refseq

[NM_004051](#)

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Protein Refseq	NP_004042
MIM	603063
UniProt ID	Q02338
Chromosome Location	3q29
Function	3-hydroxybutyrate dehydrogenase activity; binding; oxidoreductase activity; phospholipid binding

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