Data Sheet (Cat.No.TMPY-03618)

TargetMol

BTD Protein, Human, Recombinant (His)

General Information

Synonyms:	biotinidase;BTD
Protein Construction:	A DNA sequence encoding the human BTD (P43251) (Met1-Asp543) with a C-terminal polyhistidine tag was expressed. Predicted N terminal: Ala 42
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P43251
Molecular Weight:	58.2 kDa (predicted); 66-76 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to hydrolyze biocytin to lysine and biotin. The specific activity is >500pmol/min/μg.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Biotinidase, also known as biotinase and BTD, is a ubiquitous mammalian cell enzyme which expressed at high levels in the liver, serum, and kidney. Its primary function is to cleave biotin from biocytin, preserving the pool of biotin for use as a cofactor for biotin dependent enzymes, namely the 4 human carboxylases. Biotinidase also recycles biotin from enzymes in the body that use it as a helper component in order to function. These enzymes, known ascarboxylases, are important in the processing offats,carbohydrates, andproteins. Biotin is attached to

these carboxylase enzymes through anamino acid(the building material of proteins) calledlysine, forming a complex calledbiocytin.

Reference

Cole H., et al.,(1994), Human serum biotinidase. cDNA cloning, sequence, and characterization. J. Biol. Chem. 269: 6566-6570.

Knight H.C., et al., (1998), Structure of the human biotinidase gene.Mamm. Genome 9:327-330.

Ota T., et al.,(2004), Complete sequencing and characterization of 21,243 full-length human cDNAs.Nat. Genet. 36: 40-45.

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