Data Sheet (Cat.No.TMPY-03756)

TargetMol

BBOX1 Protein, Human, Recombinant (His & GST)

General Information

Synonyms:	butyrobetaine (γ), 2-oxoglutarate dioxygenase (γ-butyrobetaine hydroxylase) 1;BBOX; butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) 1;butyroβine (gamma), 2-oxoglutarate dioxygenase (gamma-butyroβine hydroxylase) 1;γ-BBH;gamma-BBH;BBH;G-BBH
Protein Construction:	A DNA sequence encoding the human BBOX1 (O75936) (Met1-Asn387) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O75936
Molecular Weight:	72.5 kDa (predicted); 65 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % 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 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 8.0.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

BBOX1, also known as gamma-BBH, belongs to thegamma-BBH/TMLD family. It is highly expressed in kidney and moderately expressed in liver. BBOX1 catalyzes the formation of L-carnitine from gamma-butyrobetaine, the last

step in the L-carnitine biosynthetic pathway. Carnitine is essential for the transport of activated fatty acids across the mitochondrial membrane during mitochondrial beta-oxidation. BBOX1 is an inhibition target for mildronate which can be used to treatanginaandmyocardial infarction. Mildronate may also be beneficial for the treatment ofneurological disorder,diabetes, andseizures andalcohol intoxication.

Reference

Vaz FM. et al., 1998, Biochem Biophys Res Commun. 250 (2): 506-10.
Paul HS. et al., 1992, Eur J Biochem. 203 (3): 599-605.
Dawany NB. et al., 2011, Int J Cancer. 128 (12): 2881-91.