

GBA3 Protein, Human, Recombinant (His)

General Information

Synonyms:	glucosidase, beta, acid 3 (gene/pseudogene); GBA3; MGC126878; KLRP; CBGL1; glucosidase, β , acid 3 (gene/pseudogene); CBG; GLUC; MGC104276
Protein Construction:	A DNA sequence encoding the human GBA3 (NP_066024.1) (Met 1-Leu 469) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	A8K9N1
Molecular Weight:	55 kDa (predicted); 50 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to hydrolyze 4-methylumbelliferyl- β -D glucopyranoside. The specific activity is >1,500 pmoles/min/ μ g.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 20 mM Tris, 500 mM NaCl, 10% glycerol, 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

Cytosolic beta-glucosidase, also known as Cytosolic beta-glucosidase-like protein 1, GBA3, CBG and CBGL1 is a cytoplasm protein which belongs to the glycosyl hydrolase 1 family and Klotho subfamily. GBA3 / CBGL1 is a glycosidase probably involved in the intestinal absorption and metabolism of dietary flavonoid glycosides. GBA3 / CBGL1 is present in small intestine (at protein level). GBA3 / CBGL1 is expressed in liver, small intestine, colon,

spleen and kidney. GBA3 / CBGL1 is down-regulated in renal cell carcinomas and hepatocellular carcinomas. GBA3 / CBGL1 is able to hydrolyze a broad variety of glycosides including phytoestrogens, flavonols, flavones, flavanones and cyanogens. GBA3 / CBGL1 possesses beta-glycosylceramidase activity and may be involved in a nonlysosomal catabolic pathway of glycosylceramide.

Reference

- Yahata K.,et al.,(2000), Molecular cloning and expression of a novel klotho-related protein. J. Mol. Med. 78:389-394.
- de Graaf M.,et al., (2001), Cloning and characterization of human liver cytosolic beta-glycosidase.Biochem. J. 356: 907-910.
- Berrin J.-G.,et al.,(2002), Functional expression of human liver cytosolic beta-glucosidase in Pichia pastoris. Insights into its role in the metabolism of dietary glucosides.Eur. J. Biochem. 269:249-258.

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