

## GBA Protein, Human, Recombinant (His &amp; Myc &amp; SUMO)

## General Information

|                       |   |
|-----------------------|---|
| Synonyms:             | D-glucosyl-N-acylsphingosine glucohydrolase;GBA1;Cholesterol glucosyltransferase (SGTase);Beta-glucocerebrosidase (Beta-GC);GC;Lysosomal galactosylceramidase;GBA;Alglucerase;Acid beta-glucosidase;Beta-glucosylceramidase 1;Lysosomal cholesterol glycosyltransferase;Lysosomal glycosylceramidase;Glucosylceramidase beta 1;Lysosomal acid GCase;Lysosomal acid glucosylceramidase;Imiglucerase;Cholesteryl-beta-glucosidase;GLUC  |
| Protein Construction: | 40-536 aa   |
| Species:              | Human   |
| Expression Host:      | E. coli   |
| Accession:            | P04062  |
| Molecular Weight:     | 75.6 kDa (predicted)  |
| AA Sequence:          | ARPCIPKSFYSSVVCVFNATYCDSDPPTFPALGTFSTRYESTRSGRRMELSMGPIQANHTGTGLLLTLQPEQK<br>FQKVKGFGGAMTDAAALNILALSPPAQNLLLSYFSEEIGYNIIRVPMASCDIFSIRTYTYADTPDDFQLHNFS<br>LPEEDTKLKIPLIHRALQLAQRPVSLASPWTSPWLKTNGAVNGKGLKQPGDIYHQTWARYFVKFLDAYA<br>EHKLQFWAVTAENEPSAGLLSGYPFQCLGFTPEHQRFIARDLGPTLANSTHHNVRLMLDDQRLLLPHWAK<br>VVLTDPEAAKYVHGIADVHWYLDLFLAPAKATLGETHRLFPNTMLFASEACVGSKFWEQSVRLGSDWRGMQYS<br>HSIITNLLYHVVGWTDWNLALNPEGGPNWVRNFVDSPHIVDITKDTFYKQPMFYHLGHFSKFIPEGSQRVGLV<br>ASQKNDLDAVALMHPDGSVVVVLNRSSKDVPLTIKDPAVGFLETISPYSIHTYLWRRQ |

## QC Testing

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|----------------------|---|
| Biological Activity: | Activity has not been tested. 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:         | Tris-based buffer, 50% glycerol   |

## 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 &amp; Storage:

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

Glucosylceramidase that catalyzes, within the lysosomal compartment, the hydrolysis of glucosylceramide/GlcCer into free ceramide and glucose. Thereby, plays a central role in the degradation of complex lipids and the turnover of cellular membranes. Through the production of ceramides, participates in the PKC-activated salvage pathway of ceramide formation. Also plays a role in cholesterol metabolism. May either catalyze the glucosylation of cholesterol, through a transglucosylation reaction that transfers glucose from glucosylceramide to cholesterol. The short chain saturated C8:0-GlcCer and the mono-unsaturated C18:0-GlcCer being the most effective glucose donors for that transglucosylation reaction. Under specific conditions, may alternatively catalyze the reverse reaction, transferring glucose from cholesteryl-beta-D-glucoside to ceramide. Finally, may also hydrolyze cholesteryl-beta-D-glucoside to produce D-glucose and cholesterol.

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