

GBA/Glucosylceramidase Protein, Mouse (P.pastoris, His)

Cat. No.:	HY-P72304
Synonyms:	Acid beta-glucosidase; Beta-glucocerebrosidase; SGTase; Cholesteryl-beta-glucosidase
Species:	Mouse
Source:	P. pastoris
Accession:	P17439 (A20-Q515)
Gene ID:	14466
Molecular Weight:	Approximately 57.5 kDa

PROPERTIES

AA Sequence

A Q P C I P K S F G	Y S S V V C V C N A	S Y C D S L D P V T	L P A L G T F S R Y
E S T R R G R R M E	L S V G A I Q A N R	T G T G L L L T L Q	P E K K F Q K V K G
F G G A M T D A T A	L N I L A L S P P T	Q K L L L R S Y F S	T N G I E Y N I I R
V P M A S C D F S I	R V Y T Y A D T P N	D F Q L S N F S L P	E E D T K L K I P L
I H Q A L K M S S R	P I S L F A S P W T	S P T W L K T N G R	V N G K G S L K G Q
P G D I F H Q T W A	N Y F V K F L D A Y	A K Y G L R F W A V	T A E N E P T A G L
F T G Y P F Q C L G	F T P E H Q R D F I	S R D L G P A L A N	S S H D V K L L M L
D D Q R L L L P R W	A E V V L S D P E A	A K Y V H G I A V H	W Y M D F L A P A K
A T L G E T H R L F	P N T M L F A S E A	C V G S K F W E Q S	V R L G S W D R G M
Q Y S H S I I T N L	L Y H V T G W T D W	N L A L N P E G G P	N W V R N F V D S P
I I V D I P K D A F	Y K Q P M F Y H L G	H F S K F I P E G S	Q R V A L V A S E S
T D L E T V A L L R	P D G S A V V V V L	N R S S E D V P L T	I S D P D L G F L E
T V S P G Y S I H T	Y L W R R Q		

Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.

Appearance Lyophilized powder.

Formulation Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4.

Endotoxin Level <1.0 EU/µg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

GBA/Glucosylceramidase Protein functions as a critical enzyme within the lysosomal compartment, catalyzing the hydrolysis of glucosylceramides/GlcCers, such as beta-D-glucosyl-(1->1')-N-acylsphing-4-enine, into free ceramides, such as N-acylsphing-4-enine, and glucose. This enzymatic process is central to the degradation of complex lipids and the turnover of cellular membranes. Additionally, GBA plays a role in the PKC-activated salvage pathway of ceramide formation through the production of ceramides. The protein exhibits transglucosylation activity, facilitating the glucosylation of cholesterol by transferring glucose from GlcCer to cholesterol. It shows a preference for GlcCer containing mono-unsaturated fatty acids as glucose donors for cholesterol glucosylation. Under specific conditions, GBA may catalyze the reverse reaction, transferring glucose from cholesteryl 3-beta-D-glucoside to ceramide, or hydrolyze cholesteryl 3-beta-D-glucoside, producing glucose and cholesterol. Additionally, GBA can hydrolyze galactosylceramides/GalCers, such as beta-D-galactosyl-(1->1')-N-acylsphing-4-enine, and transfer galactose between GalCers and cholesterol, albeit with lower activity than with GlcCers. Notably, xylosylceramide/XylCer does not serve as a good substrate for hydrolysis, but it acts as a proficient xylose donor for transxylosylation activity to form cholesteryl 3-beta-D-xyloside.

Caution: Product has not been fully validated for medical applications. For research use only.

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