abcam

ab276056

Anti-GBA3 antibody [008] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human GBA3 aa 1-500. The exact immunogen used to generate this antibody is proprietary information. Database link Q9H227
Carrier free	Yes
Clone number	008
Purification technique	Affinity purification Protein A

Reactivity data

ICC

Tested

Species	Human
Dilution info	1/20 - 1/100
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/25 - 1/100
Notes	-

Target data

See full target information GBA3

Function

Neutral cytosolic beta-glycosidase with a broad substrate specificity that could play a role in the catabolism of glycosylceramides (PubMed:11389701, PubMed:11784319, PubMed:17595169, PubMed:20728381, PubMed:26724485, PubMed:33361282). Has a significant glucosylceramidase activity in vitro (PubMed:17595169, PubMed:26724485). However, that activity is relatively low and its significance in vivo is not clear (PubMed:17595169, PubMed:20728381, PubMed:26724485). Hydrolyzes galactosylceramides/GalCers, glucosylsphingosines/GlcSphs and galactosylsphingosines/GalSphs (PubMed:17595169). However, the in vivo relevance of these activities is unclear (PubMed:17595169). It can also hydrolyze a broad variety of dietary glycosides including phytoestrogens, flavonols, flavones, flavanones and cyanogens in vitro and could therefore play a role in the metabolism of xenobiotics (PubMed:11784319). Possesses transxylosylase activity in vitro using xylosylated ceramides/XylCers (such as beta-D-xylosyl-(1<->1')-N-acylsphing-4-enine) as xylosyl donors and cholesterol as acceptor (PubMed:33361282). Could also play a role in the catabolism of cytosolic sialyl free N-glycans (PubMed:26193330).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary

GBA3 also known as cytosolic beta-glucosidase is an enzyme with a molecular mass of approximately 60 kDa. This protein functions to hydrolyze glycosides specifically beta-D-glucosides and other saccharide derivatives facilitating the breakdown of these molecules into useful substrates for the cell. GBA3 is

	expressed in various tissues such as liver kidney and small intestine indicating its widespread role in metabolism.
Biological function summary	Enzymes like cytosolic beta-glucosidase contribute to essential digestive and metabolic processes by breaking down glycosidic bonds found in complex carbohydrates. They are not part of a larger protein complex but they cooperate with other enzymes to maintain energy production from dietary sources. This activity helps the organism to manage carbohydrate metabolism effectively releasing simple sugars that cells use for energy.
Pathways	GBA3 interacts closely with glycolysis and gluconeogenesis important pathways for energy homeostasis. In these pathways GBA3's role in carbohydrate breakdown supplies simple sugars that enter further stages of energy production. It acts alongside proteins like glucokinase and phosphoglucomutase which also contribute to these metabolic pathways aiding in the management of energy resources in the body.
Associated diseases and disorders	Abnormal activity or expression of GBA3 can link to metabolic conditions like Gaucher's disease and Niemann-Pick disease. These are lysosomal storage disorders where disruptions in glycoside processing can lead to harmful accumulation of glucosylceramides. Proteins such as glucocerebrosidase (GBA1) are also affected in these disorders highlighting a network where GBA3 activity is vital for preventing substrate buildup and maintaining cellular health.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

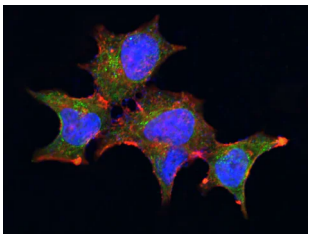
We do not recommend this combination. It is not covered by our product promise.

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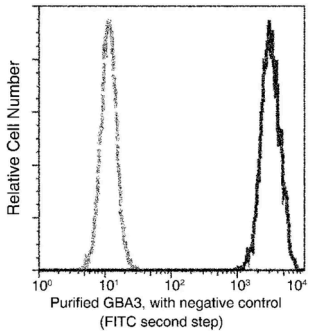
2 product images



Immunocytochemistry - Anti-GBA3 antibody [008] - BSA and Azide free (ab276056)

GBA3 Immunocytochemistry staining using rabbit Anti-GBA3 antibody

Immunofluorescent analysis of 4% PFA fixed, 0.1% Triton X-100 in PBS permeabilzed MCF7 (Human breast adenocarcinoma cell line) cells labeling GBA3 with ab276036 at 1/60 dilution, followed by Goat Anti-rabbit IgG Alexa Fluor 488-conjugated secondary antibody (green). Confocal image showing cytoplasm staining of MCF7 cells. Countstained with Alexa Fluor 546-conjugated phallotoxins (red) and DAPI (blue).



Flow Cytometry (Intracellular) - Anti-GBA3 antibody [008] - BSA and Azide free (ab276056)

GBA3 Flow Cytometry (Intracellular) staining using rabbit Anti-GBA3 antibody

Intracellular flow cytometric analysis of Jurkat (human T cell leukemia cell line from peripheral blood) cells labelling GBA3 with ab276056,followed by a FITC-conjugated secondary antibody (black line) compared with a negative control (grey line). The cells were treated according to manufacturer's manual. The Fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.

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