abcam

ab305174

Anti-GLB1/Beta-galactosidase antibody [EPR26120-76]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26120-76
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information GLB1

Function	Isoform 1. Cleaves beta-linked terminal galactosyl residues from gangliosides, glycoproteins, and glycosaminoglycans. Isoform 2. Has no beta-galactosidase catalytic activity, but plays functional roles in the formation of extracellular elastic

fibers (elastogenesis) and in the development of connective tissue. Seems to be identical to the elastin-binding protein (EBP), a major component of the non-integrin cell surface receptor expressed on fibroblasts, smooth muscle cells, chondroblasts, leukocytes, and certain cancer cell types. In elastin producing cells, associates with tropoelastin intracellularly and functions as a recycling molecular chaperone which facilitates the secretions of tropoelastin and its assembly into elastic fibers.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	GLB1 also known as beta-galactosidase is an enzyme that catalyzes the hydrolysis of beta-galactosides into monosaccharides. The protein has a molecular mass of approximately 76 kDa. Researchers observe this enzyme expression in the

	lysosome where it functions to break down complex carbohydrates. Its activity depends on proper glycosylation and correct folding usually occurring within specific cellular compartments.
Biological function summary	GLB1 is integral to the degradation and recycling of glycoproteins and glycolipids in the cell. It forms part of the lysosomal enzyme complex responsible for processing macromolecules. Without its function the accumulation of substrates can occur affecting cellular metabolism. The enzyme ensures that metabolic waste is efficiently processed linking GLB1 to cellular homeostasis.
Pathways	Beta-galactosidase participates in the lysosomal storage and glycan metabolism pathways. It is important for the catabolism of glycoside forms of hormones and other biologically-active molecules. In these pathways GLB1 interacts with proteins such as hexosaminidase creating a network of lysosomal enzymes. These interactions enable coordinated degradation of glycoproteins maintaining balance within cellular systems.
Associated diseases and disorders	GLB1 mutations associate with conditions like GM1 gangliosidosis and Morquio syndrome type B. These are lysosomal storage disorders resulting from the accumulation of unmetabolized substrates. In these diseases hexosaminidase and other lysosomal enzymes show relationships with GLB1 illuminating complex interactions within cellular pathology. Therapeutic research aims to correct or enhance enzyme function seeking to alleviate disorder symptoms.

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

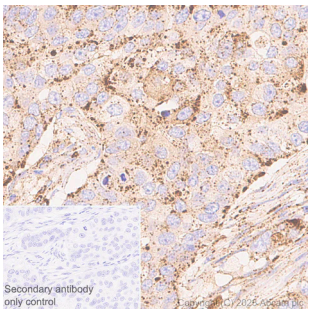
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

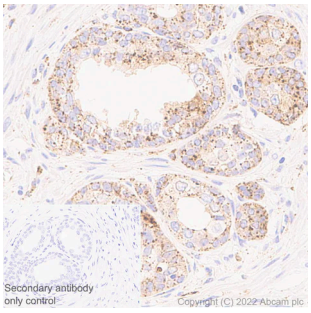
Full details and terms and conditions can be found here:
Terms & Conditions.

10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

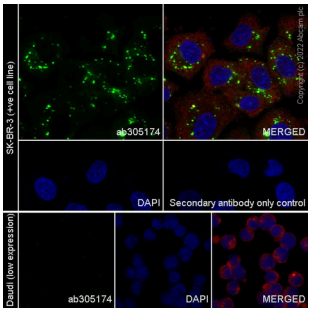
Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling GLB1/Beta-galactosidase with ab305174 at 1/500 dilution (1.088 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). The immunostaining was performed on a Leica Biosystems BOND® RX instrument counterstained with Hematoxylin. Positive staining on human breast carcinoma. The section was incubated with ab305174 for 30 mins at room temperature. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human prostate hyperplasia using rabbit Anti-GLB1/Beta-galactosidase antibody

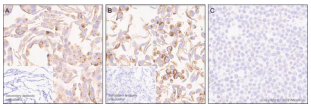
Immunohistochemical analysis of paraffin-embedded Human prostate hyper tissue labeling GLB1/Beta-galactosidase with ab305174 at 1/500 (1.088 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human prostate hyperplasia (PMID: 25876105, 28234906).The section was incubated with ab305174 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase Immunocytochemistry/ Immunofluorescence staining of SK-BR-3 (human breast adenocarcinoma epithelial cell) using rabbit Anti-GLB1/Beta-galactosidase antibody

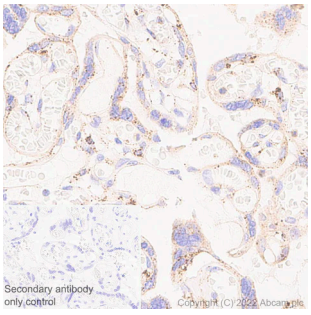
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 100% Methanol permeabilized SK-BR-3 (human breast adenocarcinoma epithelial cell) cells labeling GLB1/Beta-galactosidase with ab305174 at 1/500 (1.088 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). Confocal image showing cytoplasmic punctate staining in SK-BR-3 cell line. Low expression: Daudi. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 ug/ml) dilution (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GLB1/Beta-galactosidase antibody

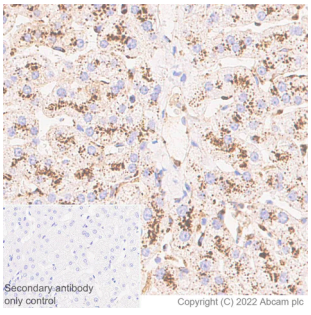
Immunohistochemical analysis of paraffin-embedded (A) MCF-7 (human bre tissue labeling GLB1/Beta-galactosidase with ab305174 at 1/500 (1.088 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on (A) MCF-7 cell pellet and (B) SK-BR-3 cell pellet; almost no staining on (C) Daudi cell pellet. The section was incubated with ab305174 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human placenta using rabbit Anti-GLB1/Beta-galactosidase antibody

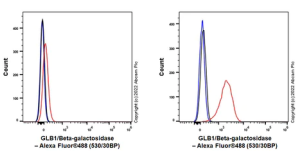
Immunohistochemical analysis of paraffin-embedded Human placenta tissue labeling GLB1/Beta-galactosidase with ab305174 at 1/500 (1.088 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human placenta (PMID: 8383699).The section was incubated with ab305174 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human liver using rabbit Anti-GLB1/Beta-galactosidase antibody

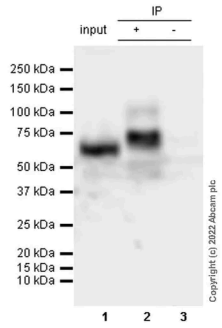
Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling GLB1/Beta-galactosidase with ab305174 at 1/500 (1.088 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human liver. The section was incubated with ab305174 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase Flow Cytometry (Intracellular) staining using rabbit Anti-GLB1/Beta-galactosidase antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Daudi (human Burkitt's lymphoma lymphoblast, Left) / SK-BR-3 (human breast adenocarcinoma epithelial cell, Right) cells labelling GLB1/Beta-galactosidase with ab305174 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Low expression control: Daudi.



Immunoprecipitation - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

GLB1/Beta-galactosidase was immunoprecipitated from 0.35 mg SK-BR-3 (human breast adenocarcinoma epithelial cell) whole cell lysate 10 ug with ab305174 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab305174 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: SK-BR-3 (human breast adenocarcinoma epithelial cell) whole cell lysate 10 ug
Lane 2: ab305174 IP in SK-BR-3 whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab305174 in SK-BR-3 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds

All lanes:
Immunoprecipitation - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174) at 1/1000 dilution

Lane 1:
SK-BR-3 (human breast adenocarcinoma epithelial cell) whole cell lysate 10 µg

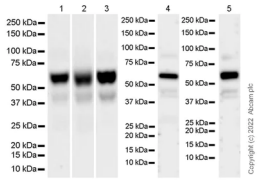
Lane 2:
SK-BR-3 whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 66 kDa

Exposure time: 15s



Western blot - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Exposure time:
All lanes:
Western blot - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174) at 1/1000 dilution

Lane 1:
Human lu tissue lysate 20 µg

Lane 2:
Human clolon tissue lysate 20 µg

Lane 3:
Human liver tissue lysate 20 µg

Lane 4:
Human testis tissue lysate 10 µg

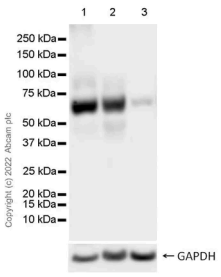
Lane 5:
Human placenta tissue lysate 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/5000 dilution

Observed band size: 66 kDa

Exposure time: 15s



Western blot - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Low expression: Daudi Exposure time: 15 seconds
All lanes:
Western blot - Anti-GLB1/Beta-galactosidase antibody [EPR26120-76] (ab305174) at 1/1000 dilution

Lane 1:
MCF7 (human breast adenocarcinoma epithelial cell), whole cell lysate 10 µg

Lane 2:
SK-BR-3 (human breast adenocarcinoma epithelial cell), whole cell lysate 10 µg

Lane 3:
Daudi (human Burkitts lymphoma lymphoblast), whole cell lysate 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 66 kDa

Exposure time: 15s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.