abcam

ab168341

Anti-Galactosidase alpha antibody [EP5828(2)]

Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) is a rabbit monoclonal antibody detecting Galactosidase alpha in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EP5828(2)
Purification technique	Affinity purification Protein A
Concentration	1.008 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/90
Notes	-

Target data

See full target information GLA

Function	Catalyzes the hydrolysis of glycosphingolipids and participates in their degradation in the lysosome.

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

What is this antibody validated in?
Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Galactosidase alpha?
Anti-Galactosidase alpha [EP5828(2)] (ab168341) specifically detects a band for Galactosidase alpha (UniProt: P06280) at a molecular weight of 49kDa.

Trusted by the scientific community
Anti-Galactosidase alpha [EP5828(2)] (ab168341) was first used in a scientific publication in 2013 and has been cited over 10 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) has been confirmed by Western blot testing in GLA Knockout HAP1 cells.

Other related products
We have a range of other formats of antibody clone [EP5828(2)] also available for your convenience: ab168341, Carrier free - ab215258, APC - ab310830, PE - ab310906, Alexa Fluor® 488 - ab310964, Alexa Fluor® 647 - ab311082, Alexa Fluor® 594 - ab311676, Alexa Fluor® 568 - ab312951, Alexa Fluor® 555 - ab313160, Alexa Fluor® 750 -

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	Alpha-galactosidase also known as alpha-D-galactosidase or A-galactosidase is an enzyme that catalyzes the hydrolysis of terminal alpha-galactosyl moieties from glycolipids and glycoproteins. It has a molecular mass of approximately 50000 Daltons. This enzyme is expressed in various tissues including the liver heart and kidneys. It functions by efficiently removing alpha-galactose residues from target molecules a process important for maintaining cellular function.
Biological function summary	The role of alpha-galactosidase involves the breakdown of complex carbohydrates particularly those containing alpha-galactosidic bonds. It does not operate as part of a complex but rather functions independently to cleave these specific bonds in glycolipids and glycoproteins. This activity is critical for degrading langerin and other gangliosides preventing the accumulation of these molecules in the lysosomes. By continuously performing this function alpha-galactosidase maintains glycosphingolipid homeostasis ensuring efficient cellular metabolism.
Pathways	The involvement of alpha-galactosidase in metabolic and lysosomal catabolic pathways is significant. One critical pathway is the glycolipid metabolism pathway where it acts alongside related enzymes such as beta-galactosidase. It also participates in the lysosomal degradation pathway working in conjunction with other lysosomal enzymes to prevent substrate buildup. The interaction with enzymes like lysosomal hydrolases ensures the proper breakdown of complex molecules into simpler ones that cells can utilize or excrete.

Associated diseases and disorders	Defects in the alpha-galactosidase enzyme lead to the lysosomal storage disorder known as Fabry disease. This genetic disorder causes the accumulation of globotriaosylceramide due to deficient alpha-galactosidase activity. Another disorder associated with malfunctioning alpha-galactosidase is cardiac complications due to tissue storage of glycolipids. In both cases the lack of enzyme activity disrupts cellular and tissue functions linking alpha-galactosidase to clinical symptoms seen in these disorders.

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

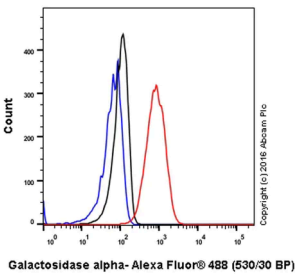
We do not recommend this combination. It is not covered by our product promise.

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.

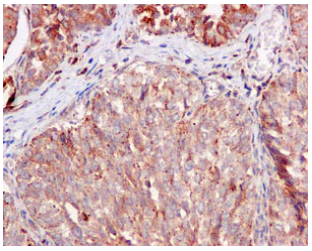
10 product images



Flow Cytometry (Intracellular) - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Flow Cytometry (Intracellular) staining using rabbit Anti-Galactosidase alpha antibody

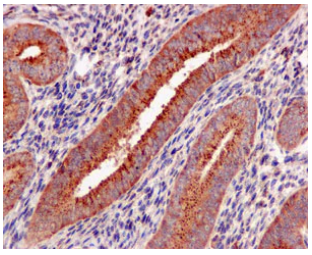
Intracellular Flow Cytometry analysis ofHeLa cells labelling Galactosidase alpha with purified ab168341 at a dilution of 1/90 (red). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. An Alexa Flour® 488-conjugated goat anti-rabbit IgG (1/2000) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Galactosidase alpha antibody

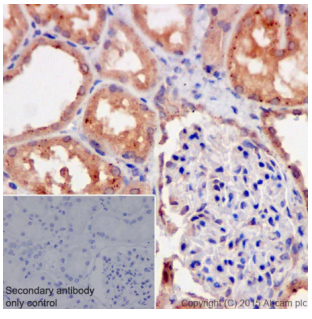
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human urinary bladder carcinoma tissue labelling Galactosidase alpha with unpurified ab168341 at a dilution of 1/50.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Galactosidase alpha antibody

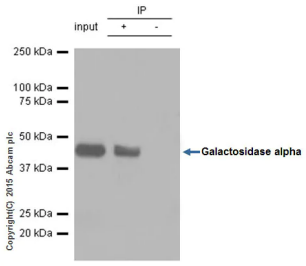
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human uterus tissue labelling Galactosidase alpha with unpurified ab168341 at a dilution of 1/50.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Galactosidase alpha antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labelling Galactosidase alpha with purified ab168341 at 1/50. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunoprecipitation - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

ab168341 (purified) at 1/60 immunoprecipitating Galactosidase alpha in MCF-7 whole cell lysate. Lane 1 (input): MCF-7 whole cell lysate (10µg)

Lane 2 (+): ab168341 + MCF-7 whole cell lysate.

Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab168341 in MCF-7 whole cell lysate.

For western blotting, a HRP-conjugated anti-rabbit IgG, specific to the non-reduced form of IgG was used as the secondary antibody (1/1500).

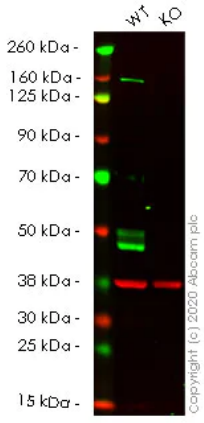
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Predicted band size: 49 kDa

Observed band size: 46 kDa



Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Lanes 1-2: Merged signal (red and green). Green - ab168341 observed at 49 kDa. Red - loading control ab8245 observed at 37 kDa.
ab168341 Anti-Galactosidase alpha antibody [EP5828(2)] was shown to specifically react with Galactosidase alpha in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265563 (knockout cell lysate ab257449) was used. Wild-type and Galactosidase alpha knockout samples were subjected to SDS-PAGE. ab168341 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

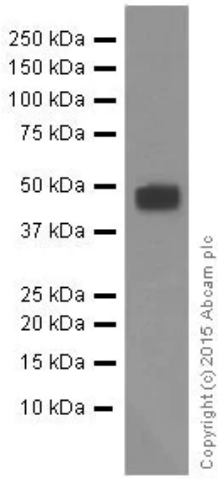
Lane 2:
GLA knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human GLA (Galactosidase alpha) knockout HeLa cell line (ab265563)

Performed under reducing conditions.

Predicted band size: 38 kDa, 49 kDa

Observed band size: 49 kDa



Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Western blot staining of HEK293 whole cell lysate using rabbit Anti-Galactosidase alpha antibody

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) at 1/5000 dilution

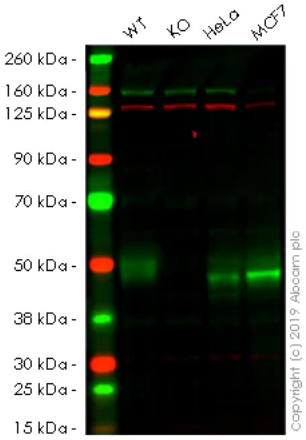
All lanes:
HEK293 whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 49 kDa

Observed band size: 46 kDa



Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Western blot staining using rabbit Anti-Galactosidase alpha antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab168341 observed at 49 kDa. Red - loading control, ab130007, observed at 125 kDa.
ab168341 was shown to recognize GLA (Alpha-galactosidase A) in wild-type HAP1 cells as signal was lost at the expected MW in GLA knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and GLA knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% milk. ab168341 and ab130007 (Mouse anti-Vinculin loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) at 1/1000 dilution

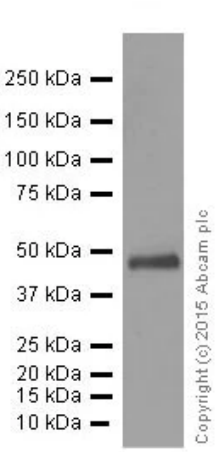
Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
GLA knockout HAP1 whole cell lysate at 20 µg

Lane 3:
Hela whole cell lysate at 20 µg

Lane 4:
MCF-7 whole cell lysate at 20 µg

Predicted band size: 49 kDa



Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

Galactosidase alpha Western blot staining of MCF-7 whole cell lysate using rabbit Anti-Galactosidase alpha antibody

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) at 20 µg

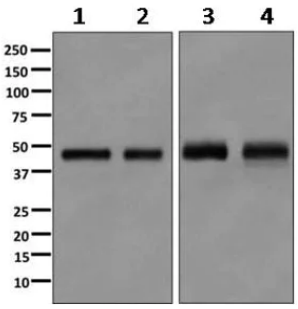
All lanes:
MCF-7 whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 49 kDa

Observed band size: 46 kDa



Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341)

All lanes:
Western blot - Anti-Galactosidase alpha antibody [EP5828(2)] (ab168341) at 1/1000 dilution

Lane 1:
MCF-7 cell lysates at 10 µg

Lane 2:
293T cell lysates at 10 µg

Lane 3:
A431 cell lysates at 10 µg

Lane 4:
HeLa cell lysates at 10 µg

Predicted band size: 49 kDa

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