abcam

ab214671

Anti-NAGLU/NAG antibody [EPR20708]

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
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR20708
Purification technique	Affinity purification Protein A
Concentration	0.486 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	Additional bands observed in some rodent tissue lysates where NAGLU is not highly expressed.

Species	Rat
Dilution info	1/1000
Notes	Additional bands observed in some rodent tissue lysates where NAGLU is not highly expressed.

Species	Human
Dilution info	1/1000
Notes	Additional bands observed in some rodent tissue lysates where NAGLU is not highly expressed.

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human

Dilution info	1/50
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	-

Species	Rat
Dilution info	1/4000
Notes	-

Species	Human
Dilution info	1/4000
Notes	-

Target data

See full target information NAGLU

Function	Involved in the degradation of heparan sulfate.

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	NAGLU/NAG also known as alpha-N-acetylglucosaminidase is an enzyme with a molecular weight of approximately 83 kDa. This enzyme localizes in the lysosome where cells express it across various tissues. NAGLU plays a significant role in the breakdown of heparan sulfate which is a glycosaminoglycan found on cell surfaces and in the extracellular matrix. Its enzymatic action involves the cleavage of terminal alpha-N-acetylglucosamine residues during lysosomal degradation.
Biological function summary	NAGLU facilitates the degradation of heparan sulfate in conjunction with other enzymes as part of a degradation complex within the lysosome. NAGLU's action is essential for maintaining the balance of heparan sulfate levels inside cells which is important for cellular health and function. Without the proper function of this enzyme heparan sulfate accumulates within lysosomes due to incomplete catabolism leading to cellular dysfunction and related pathologies.
Pathways	NAGLU functions critically in the glycosaminoglycan degradation pathway. This pathway involves several enzymes including iduronate-2-sulfatase which acts upstream of NAGLU. Together they ensure the breakdown of complex sugars such as heparan sulfate. NAGLU also participates in the larger lysosomal degradation pathway collaborating with other lysosomal enzymes to ensure proper breakdown and recycling of cellular materials.

Associated diseases and disorders	Disruptions in NAGLU function are directly linked to mucopolysaccharidosis type IIIB (MPS IIIB) also known as Sanfilippo syndrome type B. This disorder results from mutations that impair NAGLU activity causing heparan sulfate accumulation and neurodegeneration. Additionally deficient NAGLU activity may intersect with pathologies involving heparan sulfate binding proteins impacting cellular signaling and contributing to disease progression.

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

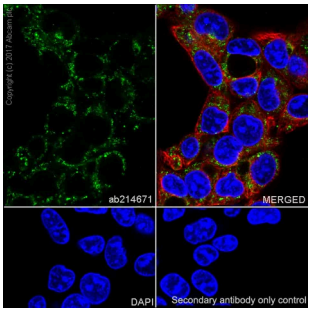
We do not recommend this combination. It is not covered by our product promise.

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

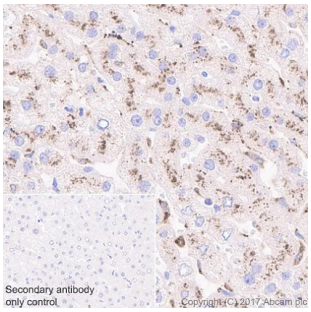


Immunocytochemistry/ Immunofluorescence - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

NAGLU/NAG Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NAGLU/NAG antibody

Immunofluorescent analysis of 100% methanol-fixed HepG2 (human liver hepatocellular carcinoma cell line) cells labeling NAGLU/NAG with ab214671 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HepG2 cell line.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

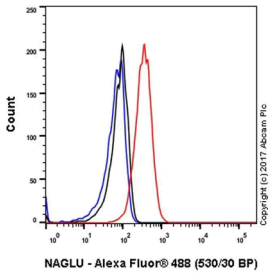


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

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

Immunohistochemical analysis of paraffin-embedded human liver tissue labeling NAGLU/NAG with ab214671 at 1/4000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Granular cytoplasmic staining on human liver (PMID: 4291567 PMID: 8776591). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

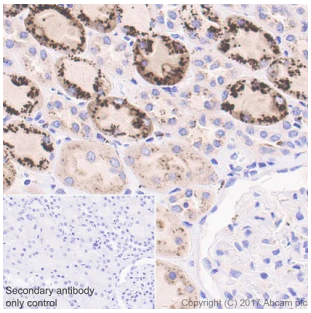
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

NAGLU/NAG Flow Cytometry (Intracellular) staining using rabbit Anti-NAGLU/NAG antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HepG2 (human liver hepatocellular carcinoma cell line) cell line labeling NAGLU/NAG with ab214671at 1/50 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.

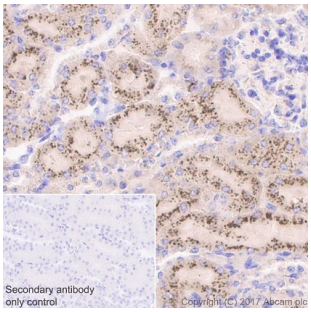


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NAGLU/NAG Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NAGLU/NAG antibody

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling NAGLU/NAG with ab214671 at 1/4000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Granular cytoplasmic staining on human kidney tubules (PMID: 4291567 PMID: 24244710). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

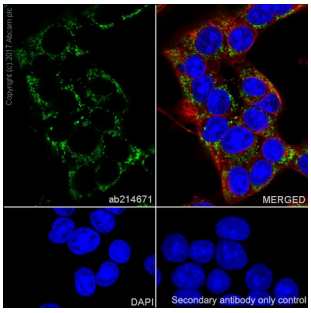


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

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

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling NAGLU/NAG with ab214671 at 1/4000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Granular cytoplasmic staining on mouse kidney tubules (PMID: 4291567 PMID: 24244710). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

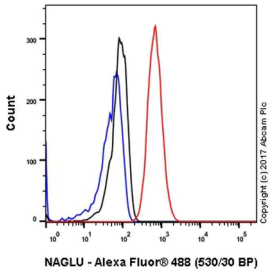


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NAGLU/NAG Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NAGLU/NAG antibody

Immunofluorescent analysis of 100% methanol-fixed Hepa1-6 (mouse hepatoma epithelial cell line) cells labeling NAGLU/NAG with ab214671 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on Hepa1-6 cell line.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

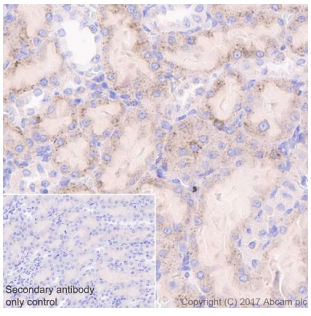
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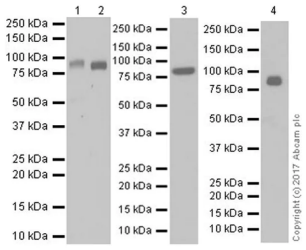
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

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

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling NAGLU/NAG with ab214671 at 1/4000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Granular

cytoplasmic staining on rat kidney tubules (PMID: 4291567 PMID: 24244710). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

NAGLU/NAG Western blot staining using rabbit Anti-NAGLU/NAG antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lanes 1-2: 1 minute; Lanes 3-4: 30 seconds.

Lanes 1 - 3:
Western blot - Anti-NAGLU/NAG antibody [EPR20708] (ab214671) at 1/1000 dilution

Lane 4:
Western blot - Anti-NAGLU/NAG antibody [EPR20708] (ab214671) at 1/5000 dilution

Lane 1:
Human placenta lysate at 20 µg

Lane 2:
Human liver lysate at 20 µg

Lane 3:
Human fetal kidney lysate at 10 µg

Lane 4:
HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate at 10 µg

Secondary

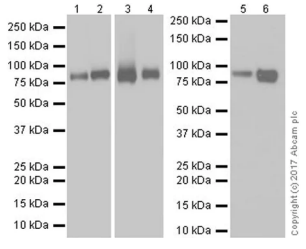
Lanes 1 - 2:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/4000 dilution

Lanes 3 - 4:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 82 kDa

Observed band size: 82 kDa



Western blot - Anti-NAGLU/NAG antibody [EPR20708] (ab214671)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lanes 1-2,5-6: 3 minutes; Lanes 3-4: 30 seconds.

Lanes 1 - 4:
Western blot - Anti-NAGLU/NAG antibody [EPR20708] (ab214671) at 1/2000 dilution

Lanes 5 - 6:
Western blot - Anti-NAGLU/NAG antibody [EPR20708] (ab214671) at 1/1000 dilution

Lane 1:

Mouse colon lysate at 20 µg

Lane 2:
Rat testis lysate at 20 µg

Lane 3:
Mouse testis lysate at 20 µg

Lane 4:
Rat colon lysate at 20 µg

Lane 5:
Rat liver lysate at 10 µg

Lane 6:
Rat spleen lysate at 10 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 82 kDa

Observed band size: 82 kDa

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