abcam

ab250798

Anti-GNE antibody [EPR15058] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR15058
Purification technique	Affinity purification Protein A
Concentration	1.005 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information GNE

Function Bifunctional enzyme that possesses both UDP-N-acetylglucosamine 2-epimerase and N-acetylmannosamine kinase activities, and serves as the initiator of the biosynthetic pathway leading to the production of N-acetylneuraminic acid (NeuAc), a critical precursor in the synthesis of sialic acids. By catalyzing this pivotal and rate-limiting step in sialic acid biosynthesis, this enzyme assumes a pivotal role in governing the regulation of cell surface sialylation, playing a role in embryonic angiogenesis (PubMed:10334995, PubMed:11326336, PubMed:14707127, PubMed:16503651, PubMed:2808337, PubMed:38237079). Sialic acids represent a category of negatively charged sugars that reside on the surface of cells as terminal components of glycoconjugates and mediate important functions in various cellular processes, including cell adhesion, signal transduction, and cellular recognition (PubMed:10334995, PubMed:14707127).

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab250798 is the carrier-free version of ab184963.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	GNE also called glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase is a bifunctional enzyme with a mass of approximately 82 kDa. This enzyme catalyzes the first two steps in sialic acid biosynthesis. GNE expression occurs in many tissues highest in liver and kidney and also in heart muscle and brain. Its bifunctional nature arises from two domain activities that facilitate the essential conversion of UDP-N-acetylglucosamine to N-acetylneuraminic acid a precursor for sialic acids.

Biological function summary	Glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase acts as an important enzyme in sialic acid production acting alone and not part of a larger enzymatic complex. Sialic acids are terminal sugars on glycoproteins and glycolipids influencing cell-cell interaction signaling and stability. The enzyme's function affects cell surface structures impacting processes like cell migration and immune response.
Pathways	The enzyme GNE plays an important role in the sialylation pathway affecting various biological systems. This pathway involves the modification of glycoproteins and glycolipids critical for maintaining cellular communication. UDP-N-acetylglucosamine and N-acetylneuraminic acid are intermediates in pathways that also involve proteins like CMP-sialic acid transporter which mediates the transport of sialic acids into the Golgi apparatus for post-translational modification processes.
Associated diseases and disorders	Defects in GNE are linked to conditions such as hereditary inclusion body myopathy (HIBM) an autosomal recessive muscle-wasting disorder. Another associated condition is sialuria a rare metabolic disorder tied to excessive levels of sialic acid. In HIBM mutations affect the enzyme’s kinase activity leading to reduced sialylation of glycoproteins. Research shows a relationship between GNE and proteins like sialin whose function as a transporter can impact the pathological manifestation of 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

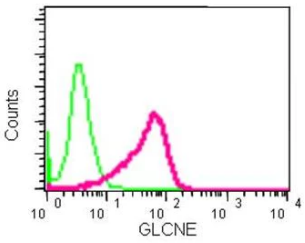
We do not recommend this combination. It is not covered by our product promise.

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.

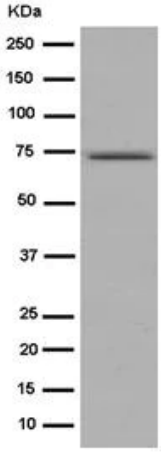
3 product images



Flow Cytometry (Intracellular) - Anti-GNE antibody [EPR15058] - BSA and Azide free (ab250798)

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

This data was developed using ab184963, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of HeLa cells (2% paraformaldehyde-fixed) labeling GNE with ab184963 at 1/100 dilution (red) or a Rabbit monoclonal IgG (negative) (green) followed by Goat anti rabbit IgG (FITC) secondary at 1/150 dilution.



Western blot - Anti-GNE antibody [EPR15058] - BSA and Azide free (ab250798)

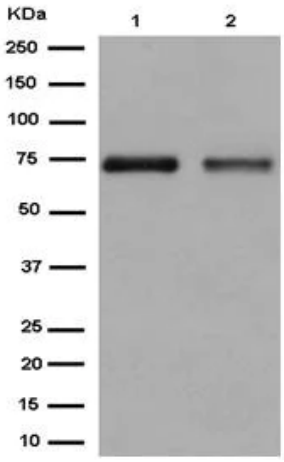
This data was developed using ab184963, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GNE antibody [EPR15058] (ab184963) at 1/20000 dilution

All lanes:
SW480 lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 79 kDa



Western blot - Anti-GNE antibody [EPR15058] - BSA and Azide free (ab250798)

This data was developed using ab184963, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GNE antibody [EPR15058] (ab184963) at 1/10000 dilution

Lane 1:
Human fetal liver tissue lysate at 20 µg

Lane 2:
Human placenta lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 79 kDa

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