abcam

ab188222

Anti-GPNMB antibody [EPR18226-147]

Anti-GPNMB antibody [EPR18226-147] (ab188222) is a rabbit monoclonal antibody detecting GPNMB in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Mouse**.

- Biophysical QC for unrivalled batch-batch consistency

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	EPR18226-147
Purification technique	Affinity purification Protein A
Concentration	0.527 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30

Notes	-

WB

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Target data

See full target information Gpnmb

Function	Could be a melanogenic enzyme.

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-GPNMB antibody [EPR18226-147] (ab188222) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Mouse samples.

What is the molecular weight of GPNMB?
Anti-GPNMB [EPR18226-147] (ab188222) specifically detects a band for GPNMB (UniProt: Q99P91) at a molecular weight of 64kDa.

Other related products
We have a range of other formats of antibody clone [EPR18226-147] also available for your convenience: ab188222, Carrier free - ab234529, Alexa Fluor® 488 - ab284639, Alexa Fluor® 647 - ab300475

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	GPNMB also known as osteoactivin is a type I transmembrane glycoprotein with a molecular mass of approximately 115 kDa. This protein is highly expressed in

	various tissues including the bone skin and brain. It also shows notable presence in certain immune cells such as dendritic cells and macrophages. GPNMB localizes mainly on the cell membrane and within lysosomal compartments indicating its involvement in cellular and signaling processes.
Biological function summary	GPNMB plays versatile roles in promoting cell growth differentiation and repair. It is involved in processes like tissue regeneration possibly due to its role in cell adhesion and migration. The protein also partakes in osteoclast differentiation and bone resorption therefore linking to skeletal homeostasis. GPNMB forms part of a broader protein complex at the cellular junctions interacting with integrins to mediate its functions.
Pathways	GPNMB features prominently in osteoclastogenesis and melanoma metastasis pathways. It cooperates with RANKL an important protein in bone metabolism by influencing osteoclast differentiation and activation. In the context of melanoma GPNMB's action in pathways may enhance tumor proliferation and invasion possibly interacting with signaling molecules like AKT or ERK although the specifics remain actively researched.
Associated diseases and disorders	GPNMB has significant links to both osteoarthritis and certain types of cancer particularly breast cancer and melanoma. In osteoarthritis GPNMB expression often increases reflecting involvement in cartilage degradation processes. Its overexpression correlates with tumor progression in melanoma potentially driven by its interaction with integrin B1 which assists in cellular adhesion and migration within the tumor microenvironment.

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

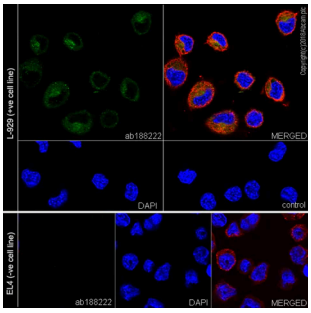
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images



Immunocytochemistry/ Immunofluorescence - Anti-GPNMB antibody [EPR18226-147] (ab188222)

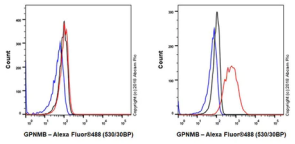
GPNMB Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GPNMB antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized L-929 (mouse connective tissue fibroblast cell line) and EL4 (mouse lymphoma T lymphocyte cell line) cells labeling GPNMB with ab188222 at 1/1000 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 in L-929 cells.

Negative control: EL4 (PMID:19320736).

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.

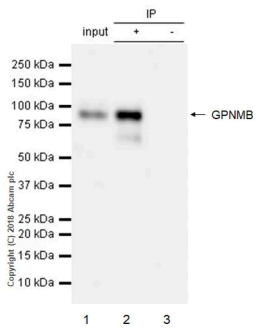
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-GPNMB antibody [EPR18226-147] (ab188222)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized EL4 (mouse lymphoma T lymphocyte cell line; left panel) and L-929 (mouse connective tissue fibroblast cell line; right panel) cell lines labeling GPNMB with ab188222 at 1/500 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) (ab150077) at 1/2000 dilution was used as the secondary antibody.
Negative control: EL4 (PMID: 19320736) (left panel).



Immunoprecipitation - Anti-GPNMB antibody [EPR18226-147] (ab188222)

GPNMB was immunoprecipitated from 0.35 mg of L-929 (mouse connective tissue fibroblast cell line) whole cell lysate with ab188222 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab188222 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/5000 dilution.
Lane 1: L-929 whole cell lysate 10 µg (Input).

Lane 2: ab188222 IP in L-929 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab188222 in L-929 whole cell lysate.

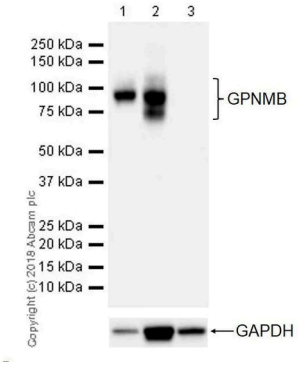
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 1 minute.
All lanes:
Immunoprecipitation - Anti-GPNMB antibody [EPR18226-147] (ab188222)

Developed using the ECL technique.

Predicted band size: 64 kDa

Observed band size: 65 kDa, 95 kDa



Western blot - Anti-GPNMB antibody [EPR18226-147] (ab188222)

GPNMB Western blot staining using rabbit Anti-GPNMB antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
The molecular mass observed is consistent with what has been described in the literature (PMID: 19320736).

Negative control: EL4 (PMID: 19320736).

All lanes:
Western blot - Anti-GPNMB antibody [EPR18226-147] (ab188222) at 1/5000 dilution

Lane 1:
L-929 (mouse connective tissue fibroblast cell line) whole cell lysate at 20 µg

Lane 2:
B16-F0 (mouse melanoma epithelial cell-like cell line) whole cell lysate at 20 µg

Lane 3:
EL4 (mouse lymphoma T lymphocyte cell line) whole cell lysate at 20 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: 64 kDa

Observed band size: 120 kDa, 65 kDa, 95 kDa

Exposure time: 15s

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