abcam

ab234529

Anti-GPNMB antibody [EPR18226-147] - 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	EPR18226-147
Purification technique	Affinity purification Protein A
Concentration	1.019 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-

Notes	-

WB

Expected

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

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information Gpnmb

Function	Could be a melanogenic enzyme.

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

ab234529 is the carrier-free version of ab188222.

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	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 β1 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

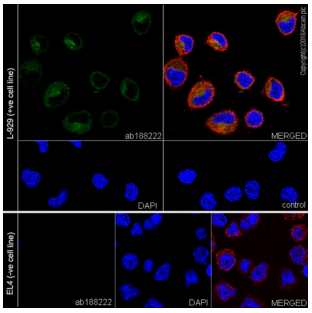
We do not recommend this combination. It is not covered by our product promise.

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.

3 product images



Immunocytochemistry/ Immunofluorescence - Anti-GPNMB antibody [EPR18226-147] - BSA and Azide free (ab234529)

GPNMB Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GPNMB antibody

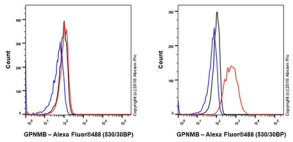
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized L-929 (mouse connective tissue fibroblast cell line) and EL4 (mouse lymphoma T lymphocyte cell line) cells labeling GPNMB with ab188222 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) 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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188222).

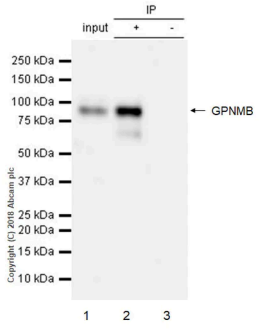


Flow Cytometry (Intracellular) - Anti-GPNMB antibody [EPR18226-147] - BSA and Azide free (ab234529)

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).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188222).



Immunoprecipitation - Anti-GPNMB antibody [EPR18226-147] - BSA and Azide free (ab234529)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188222).
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

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