abcam

ab193355

Anti-Plexin B2/MM1 antibody [EPR9965]

Recombinant | RabMAb | KO Validated | 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	EPR9965
Purification technique	Affinity purification Protein A
Concentration	0.534 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

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

Species	Mouse

Dilution info	1/1000 - 1/10000
Notes	-

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/90
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information PLXNB2

Function	Cell surface receptor for SEMA4C, SEMA4D and SEMA4G that plays an important role in cell-cell signaling (By similarity). Plays a role in glutamatergic synapse development and is required for SEMA4A-mediated excitatory synapse development (By similarity). Binding to class 4 semaphorins promotes downstream activation of RHOA and phosphorylation of ERBB2 at 'Tyr-1248' (By similarity). Also acts as a cell surface receptor for angiogenin (ANG); promoting ANG endocytosis and translocation to the cytoplasm or nucleus (PubMed:29100074, PubMed:32510170). Required for normal differentiation and migration of neuronal cells during brain corticogenesis and for normal embryonic brain development (By similarity). Regulates the migration of cerebellar granule cells in the developing brain (By similarity). Plays a role in RHOA activation and subsequent changes of the actin cytoskeleton (PubMed:12183458). Plays a role in axon guidance, invasive growth and cell migration (PubMed:15184888). May modulate the activity of RAC1 and CDC42 (By similarity).

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	Plexin B2 also known as PLXNB2 or MM1 is a high-molecular-weight protein approximately 220 kDa found in humans. Plexin B2 is involved in the semaphorin receptor complex and is made of multiple domains that interact with semaphorin molecules to mediate cellular functions. Plexin B2 is expressed in various tissues including the brain spinal cord and bones indicating its role in different neural and structural processes. This protein interacts with other members of the Plexin family and undergoes changes that allow it to serve numerous signaling roles in the body.
Biological function summary	Plexin B2 plays a role in cellular signaling processes that are essential for neural patterning and tissue morphogenesis. It binds with semaphorins particularly Sema4C to guide axonal repulsion in neural development. Plexin B2 forms part of

	a receptor complex that helps cells interpret external semaphorin signals influencing cell movement and positioning. These interactions contribute to the remodeling of neural circuits which is important during both prenatal development and adult neural function.
Pathways	Plexin B2 participates in pathways engaging Rho GTPases which are important for cytoskeletal organization and cell movement. Plexin B2 influences the RhoA and Rac1 pathways impacting actin cytoskeleton dynamics and cell adhesion processes. These pathways where Plexin B2 acts with other Rho family proteins help transmit the changes induced by semaphorin binding altering cellular orientation and migration.
Associated diseases and disorders	Plexin B2 has connections to neural tube defects and certain cancers. Defective Plexin B2 signaling can lead to improper neural tube closure contributing to conditions like spina bifida. Additionally in oncology the dysregulation of Plexin B2 expression or function links to tumor invasiveness and metastasis where it might interact with proteins like MET and Rho GTPases to influence cancer cell behavior. Understanding its role in these disorders aids in developing therapeutic strategies targeting aberrant Plexin B2 signaling.

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

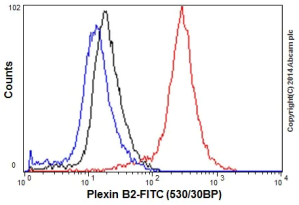
We do not recommend this combination. It is not covered by our product promise.

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.

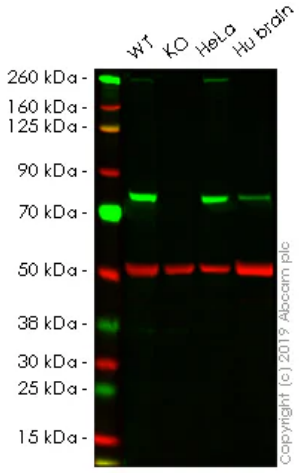
5 product images



Flow Cytometry (Intracellular) - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355)

Plexin B2/MM1 Flow Cytometry (Intracellular) staining using rabbit Anti-Plexin B2/MM1 antibody

Intracellular Flow Cytometry analysis of U87-MG cells labeling Plexin B2/MM1 using ab193355 at a 1/90 dilution (red). Goat anti rabbit IgG (FITC) used as the secondary at a 1/150 dilution. Isotype control Rabbit monoclonal IgG (black). Unlabeled control/ colour cells without incubation with primary antibody/ secondary antibody (blue). Cells were fixed in 2% paraformaldehyde.



Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355)

Plexin B2/MM1 Western blot staining using rabbit Anti-Plexin B2/MM1 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab193355 observed at 80 kDa. Red - loading control, ab7291, observed at 50 kDa.
ab193355 was shown to specifically react with in wild-type HEK-293 cells as signal was lost in PLXNB2 knockout cells. Wild-type and PLXNB2 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab193355 and ab7291 (Mouse anti-Tubulin loading control) were incubated overnight at 4°C at 1/5000 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-Plexin B2/MM1 antibody [EPR9965] (ab193355) at 1/5000 dilution

Lane 1:
Wild-type HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

Lane 2:
Western blot - Human PLXNB2 (Plexin B2/MM1) knockout HEK-293 cell lysate (ab269633) at 20 µg

Lane 2:
PLXNB2 knockout HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

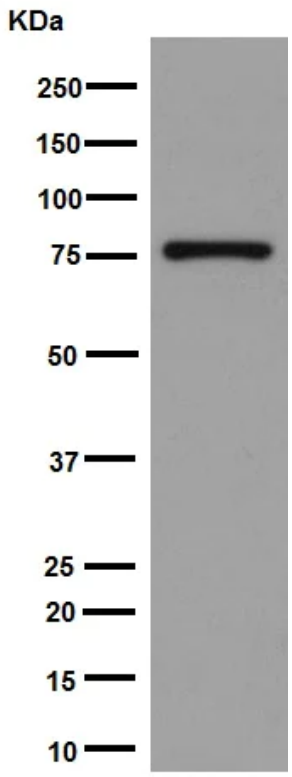
Lane 3:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 4:
Human brain whole cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 204 kDa

Observed band size: 80 kDa



Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355)

Plexin B2/MM1 Western blot staining of HeLa cell lysate using rabbit Anti-Plexin B2/MM1 antibody

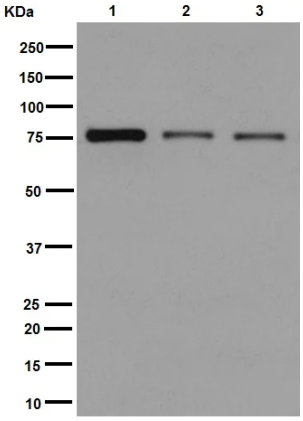
Plexin B2/MM1 could be cleaved into two subunits. The band observed at 80 kDa should be a β-chain.
All lanes:
Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355) at 1/10000 dilution

All lanes:
HeLa cell lysate at 20 µg

Secondary

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

Predicted band size: 204 kDa



Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355)

All lanes:
Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355) at 1/1000 dilution

Lane 1:
Human fetal brain lysate at 20 µg

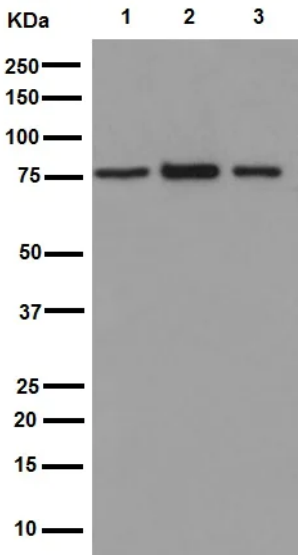
Lane 2:
U87-MG cell lysate at 20 µg

Lane 3:
293T cell lysate at 20 µg

Secondary

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

Predicted band size: 204 kDa



Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355)

All lanes:
Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] (ab193355) at 1/1000 dilution

Lane 1:
Rat brain lysate at 10 µg

Lane 2:
Raw264.7 lysate at 10 µg

Lane 3:
NIH/3T3 lysate at 10 µg

Secondary

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

Predicted band size: 204 kDa

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