abcam

ab251169

Anti-Plexin B2/MM1 antibody [EPR9965] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR9965
Purification technique	Affinity purification Protein A
Concentration	1.003 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)

Expected

Species	Mouse, Rat, Human
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	Blue Ice
Appropriate short-term storage conditions	+4°C

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

Notes

ab251169 is the carrier-free version of ab193355.

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	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

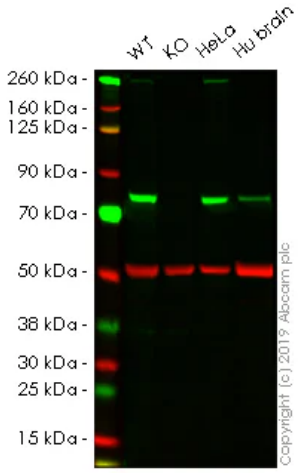
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Western blot - Anti-Plexin B2/MM1 antibody [EPR9965] - BSA and Azide free (ab251169)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab193355).

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

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