abcam

ab28762

Anti-Plexin D1 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: 0.5% BSA, 0.5% Tris
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human PLXND1 aa 1650 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q9Y4D7
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	This antibody was purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

IHC-P

Expected

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

Predicted

Species	Cow, Dog, Pig
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Cow, Dog, Pig, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Cow, Dog, Pig, Mouse
Dilution info	-
Notes	-

Target data

See full target information PLXND1

Function	Cell surface receptor for SEMA4A and for class 3 semaphorins, such as SEMA3A, SEMA3C and SEMA3E. Plays an important role in cell-cell signaling, and in regulating the migration of a wide spectrum of cell types. Regulates the migration of thymocytes in the medulla. Regulates endothelial cell migration. Plays an important role in ensuring the specificity of synapse formation. Required for normal development of the heart and vasculature (By similarity). Mediates anti-angiogenic signaling in response to SEMA3E.

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	Plexin D1 also known as PLXND1 is a transmembrane receptor that plays an important role in cell signaling. It belongs to the plexin family and has a molecular weight of roughly 250 kDa. The plexin D1 receptor is widely expressed in various tissues including neurons endothelial cells and the cardiovascular system. It is an integral part of the semaphorin signaling pathway interacting primarily with class 3 semaphorins and influencing cytoskeletal dynamics.
Biological function summary	Plexin D1 regulates cell movement and positioning by modulating cell adhesion and cytoskeletal rearrangement. As part of semaphorin signaling plexin D1 coordinates with other membrane proteins and signaling molecules to control processes like axon guidance and vascular patterning. It does not act alone but rather within a complex network of associated proteins that enhance its functional outcomes. Its involvement is important at the developmental stages especially within the nervous and vascular systems.
Pathways	The semaphorin-plexin signaling axis is where plexin D1 finds its significant role. It impacts the MAPK and PI3K pathways which are essential in controlling cellular responses to environmental cues. In these pathways it interacts with proteins such as Ras and Rho GTPases contributing to the regulation of cellular dynamics and survival. The interplay of plexin D1 with semaphorin 3E is particularly important for guiding cells in response to repulsive cues within the cellular environment.
Associated diseases and disorders	Plexin D1 is associated with cancer and vascular disorders. Its role in cellular migration and angiogenesis makes it an important player in tumor progression

and metastasis. Abnormal plexin D1 signaling might lead to improper blood vessel formation contributing to diseases like heart defects. In cancer its interaction with proteins like VEGF can promote tumor-induced angiogenesis exacerbating the disease state. Understanding these interactions is fundamental for developing therapeutic interventions targeting plexin D1-mediated pathways.

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

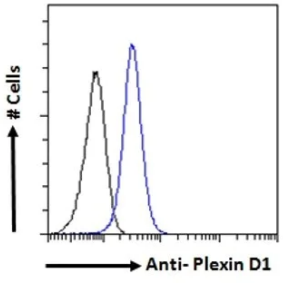
We do not recommend this combination. It is not covered by our product promise.

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.

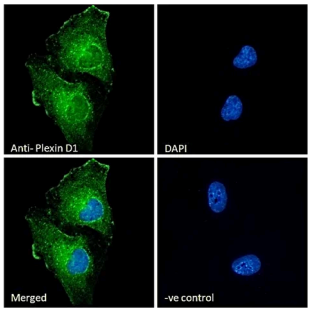
3 product images



Flow Cytometry (Intracellular) - Anti-Plexin D1 antibody (ab28762)

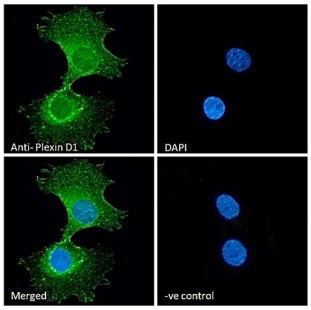
Plexin D1 Flow Cytometry (Intracellular) staining using goat Anti-Plexin D1 antibody

Flow cytometric analysis of paraformaldehyde fixed K562 cells (blue line), permeabilized with 0.5% Triton. Incubated with ab28762 for 1 hour (10 µg/ml) followed by Alexa Fluor® 488 secondary antibody (2 µg/ml).
IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor® 488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Plexin D1 antibody (ab28762)

Immunofluorescence analysis of paraformaldehyde fixed U251 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing membrane and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml).



Immunocytochemistry/ Immunofluorescence - Anti-Plexin D1 antibody (ab28762)

Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing membrane and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml).

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