abcam

ab277139

Anti-Semaphorin 4D/CD100 antibody [010] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Mouse Sema4d aa 1-750. The exact immunogen used to generate this antibody is proprietary information. Database link O09126
Carrier free	Yes
Clone number	010
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Mouse

Dilution info	1/20 - 1/100
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/25 - 1/100
Notes	-

Target data

See full target information Sema4d

Function	Cell surface receptor for PLXNB1 and PLXNB2 that plays an important role in cell-cell signaling (By similarity). Regulates GABAergic synapse development (PubMed:23699507, PubMed:29981480). Promotes the development of inhibitory synapses in a PLXNB1-dependent manner (PubMed:23699507, PubMed:29981480). Modulates the complexity and arborization of developing neurites in hippocampal neurons by activating PLXNB1 and interaction with PLXNB1 mediates activation of RHOA (By similarity). Promotes the migration of cerebellar granule cells (PubMed:17554007). Plays a role in the immune system; induces B-cells to aggregate and improves their viability (in vitro) (By similarity). Induces endothelial cell migration through the activation of PTK2B/PYK2, SRC, and the phosphatidylinositol 3-kinase-AKT pathway (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Supplementary info

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

Activity summary	Semaphorin 4D also known as CD100 is a transmembrane protein that plays important roles in cellular signaling. It belongs to the semaphorin protein family

	known for their role in axonal guidance. CD100 has a molecular mass of approximately 150 kDa. This protein expresses mainly in the immune system including T cells and B cells but can also be found in certain neurons and endothelial cells. It can exist in both a membrane-bound form and a soluble form which arise from proteolytic cleavage.
Biological function summary	CD100 influences various cellular functions by interacting with multiple receptors such as Plexin-B1 and CD72 as part of a larger signaling complex. It contributes to immune response regulation by promoting T-cell activation and B-cell aggregation which are essential for adaptive immunity. In the nervous system it guides neural development including axon growth and synaptic plasticity. CD100's interaction with Plexin-B1 plays a significant role in these developmental processes often affecting cell morphology and movement.
Pathways	Semaphorin 4D is involved in both immune and neural signaling pathways. In the immune system it influences the PI3K-Akt signaling pathway which impacts cell survival and immune cell activation. It associates with pathways involving Plexin-B1 and RhoA to regulate cytoskeletal dynamics affecting cell motility and growth. Additionally CD100's role in neural pathways intersects with proteins like neuropilin-1 influencing semaphorin-mediated signaling essential for neural connectivity.
Associated diseases and disorders	Semaphorin 4D has links to cancer and autoimmune diseases. High expression levels of CD100 are observed in several tumor types where it might promote tumor growth and metastasis through its signaling pathways. In autoimmune conditions like multiple sclerosis CD100 affects immune cell interactions and can exacerbate inflammatory responses. Its involvement with proteins such as CD72 and Plexin-B1 in these conditions highlights its contribution to pathogenesis and potential as a therapeutic target.

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

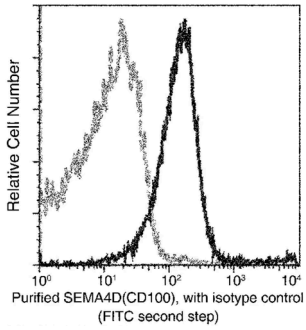
We do not recommend this combination. It is not covered by our product promise.

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:
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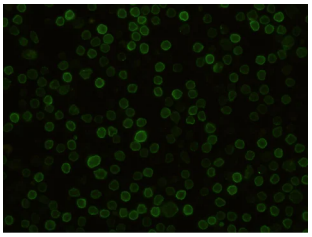
2 product images



Flow Cytometry - Anti-Semaphorin 4D/CD100 antibody [010] - BSA and Azide free (ab277139)

Semaphorin 4D/CD100 Flow Cytometry staining using rabbit Anti-Semaphorin 4D/CD100 antibody

Flow cytometric analysis of Semaphorin 4D/CD100 expression on mouse BABL/c splenocytes. Cells were stained with ab277139 at 1/25 dilution, then a FITC-conjugated second step antibody (Black). Cells were also staibed with an isotype control (Grey). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.



Immunocytochemistry - Anti-Semaphorin 4D/CD100 antibody [010] - BSA and Azide free (ab277139)

Semaphorin 4D/CD100 Immunocytochemistry staining using rabbit Anti-Semaphorin 4D/CD100 antibody

Immunofluorescence staining of Semaphorin 4D/CD100 in mouse spleen cells. Cells were fixed with 4% PFA, blocked with 10% serum, and incubated with ab277139 at 1/60 dilution at 37°C for 1 hour. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-rabbit IgG secondary antibody (green). Positive staining was localized to cell membrane.

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