abcam

ab288670

Anti-Semaphorin 4D/CD100 antibody [133-1C6]

Key facts

Isotype	IgM
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.098% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing SEMA4D protein. The exact immunogen used to generate this antibody is proprietary information. Database link Q92854
Clone number	133-1C6
Purification technique	Multi-step chromatography
Specificity	The mouse monoclonal antibody 133-1C6 recognizes an extracellular epitope of CD100, an approximately 150 kDa (when reduced) semaphorin family member expressed mainly on lymphocytes, NK cells, monocytes/macrophages and granulocytes, but also on some non-hematopoietic cells.
Purification notes	Purified by sequential steps of physicochemical fractionation (differential precipitation and solid-phase chromatography methods).

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1-4 g/mL

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 (PubMed:20877282). Regulates GABAergic synapse development (By similarity). Promotes the development of inhibitory synapses in a PLXNB1-dependent manner (By similarity). Modulates the complexity and arborization of developing neurites in hippocampal neurons by activating PLXNB1 and interaction with PLXNB1 mediates activation of RHOA (PubMed:19788569). Promotes the migration of cerebellar granule cells (PubMed:16055703). Plays a role in the immune system; induces B-cells to aggregate and improves their viability (in vitro) (PubMed:8876214). Induces endothelial cell migration through the activation of PTK2B/PYK2, SRC, and the phosphatidylinositol 3-kinase-AKT pathway (PubMed:16055703).

Storage

Shipped at conditions	Blue Ice
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

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

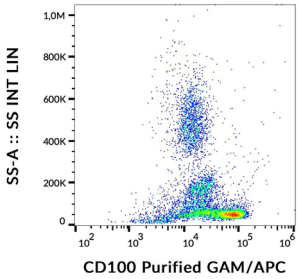
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - Anti-Semaphorin 4D/CD100 antibody [133-1C6] (ab288670)

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

Flow cytometry analysis (surface staining) of human peripheral blood with ab288670, GAM-APC. (Antibody concentration 2 µg/ml)

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