abcam

ab26012

FITC Anti-Semaphorin 7a antibody [MEM-150]

Anti-Semaphorin 7a antibody [MEM-150] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [MEM-150] is a mouse monoclonal antibody.

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Key facts

Isotype	IgM
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 8 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing SEMA7A protein. The exact immunogen used to generate this antibody is proprietary information. Database link O75326
Clone number	MEM-150
Purification technique	Size-exclusion chromatography
Purification notes	Purity >95% by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	20 µL for 10^6 Cells
Notes	Use 20 µl per 100 µl of whole blood. ab91546 - Mouse monoclonal IgM, is suitable for use as an isotype control with this antibody.

Target data

See full target information SEMA7A

Function	Plays an important role in integrin-mediated signaling and functions both in regulating cell migration and immune responses. Promotes formation of focal adhesion complexes, activation of the protein kinase PTK2/FAK1 and subsequent phosphorylation of MAPK1 and MAPK3. Promotes production of pro-inflammatory cytokines by monocytes and macrophages. Plays an important role in modulating inflammation and T-cell-mediated immune responses. Promotes axon growth in the embryonic olfactory bulb. Promotes attachment, spreading and dendrite outgrowth in melanocytes.

Storage

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

Notes

The antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use.

Supplementary info

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

Activity summary	Semaphorin 7a also known as SEMA7A or CD108 is a glycoprotein that has a molecular mass of approximately 80 kDa. This target plays a role in axonal guidance and immune response regulation. It is a member of the semaphorin family which generally acts as signaling molecules. Semaphorin 7a is expressed in various tissues including the immune system nervous system and some epithelial cells. Its expression is especially significant in T-cells and is involved in modulating cell adhesion and migration.

Biological function summary	Semaphorin 7a is implicated in diverse processes such as immune system modulation and nervous system development. It functions as part of a complex involving integrins which mediate cell-to-cell communication and interaction with the extracellular matrix. This protein can bridge the immune and neural signaling pathways indicating its multifunctional nature within organisms. Its interaction with β1 integrins enhances T-cell activation and cytokine production which is important for immune response.
Pathways	Semaphorin 7a integrates into the MAPK and PI3K signaling pathways. These pathways are essential for cell survival migration and apoptosis. In the MAPK pathway Semaphorin 7a impacts downstream signaling through its interaction with ERK proteins. Its role in the PI3K pathway connects it to AKT proteins influencing cell growth and metabolic processes. These connections show its versatility and critical role in signal transduction linked to cellular behaviors.
Associated diseases and disorders	Semaphorin 7a has been associated with multiple sclerosis and melanoma. In multiple sclerosis altered expression of this protein can affect immune response and neural repair processes. Its connection to melanoma is linked with its role in regulating cell motility and adhesion impacting cancer progression and metastasis. Semaphorin 7a's interactions with proteins like Melanocortin 1 Receptor (MC1R) in melanoma provide insights into therapeutic targets for disease interventions.

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

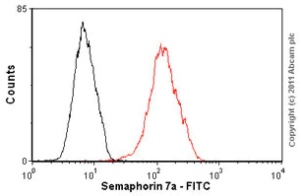
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - FITC Anti-Semaphorin 7a antibody [MEM-150] (ab26012)

Semaphorin 7a Flow Cytometry staining using mouse Anti-Semaphorin 7a antibody

Overlay histogram showing Jurkat cells stained with ab26012 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab26012, 1.2µg/1x10^6 cells) for 30 min at 22°C. Isotype control antibody (black line) was mouse IgGM FITC (2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 4% paraformaldehyde used under the same conditions.
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.

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