abcam

ab263900

Anti-Semaphorin 7a antibody [EPR22644-316]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22644-316
Purification technique	Affinity purification Protein A
Concentration	0.576 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-Fr

Tested

Species	Human
Dilution info	0.5 µg/mL
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

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	Conditional Ambient
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

Notes

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.

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

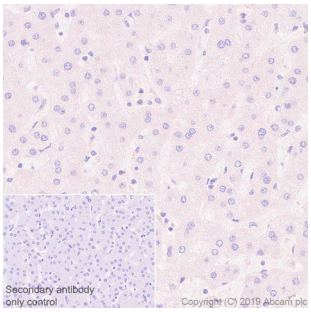
We do not recommend this combination. It is not covered by our product promise.

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.

8 product images



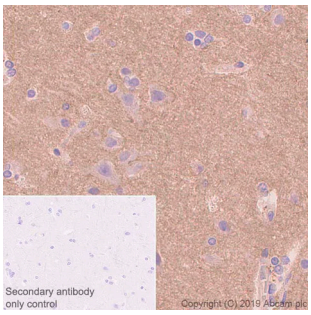
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

Semaphorin 7a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Semaphorin 7a antibody

Immunohistochemical analysis of paraffin-embedded human liver tissue labeling Semaphorin 7a with ab263900 at 1/100 followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). **Low expression tissue:** Faint cytoplasmic staining on human liver. The section was incubated with ab263900 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.

Secondary antibody only control: Ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

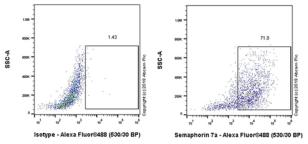


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

Semaphorin 7a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Semaphorin 7a antibody

Immunohistochemical analysis of paraffin-embedded human cerebral cortex tissue labeling Semaphorin 7a with ab263900 at 1/100 followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human cerebral cortex is observed. The section was incubated with ab263900 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

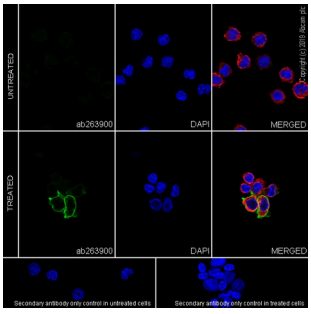
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Flow Cytometry - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

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

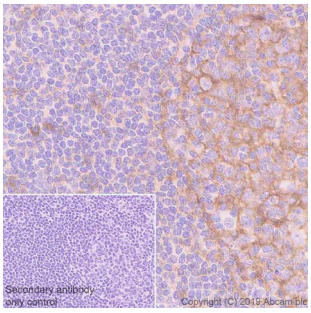
Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) treated with 10µg/ml phytohemagglutinin (PHA) for 2 days labeling Semaphorin 7a with ab263900 at 1\500 compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 was used as the secondary antibody. Gated on viable cells.



Immunocytochemistry/ Immunofluorescence - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

Semaphorin 7a Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Semaphorin 7a antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Human PBMC (human primary peripheral blood mononuclear cell) cells labeling Semaphorin 7a with ab263900 at 1/250 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing membranous staining in human PBMC cells treated with phytohaemagglutinin (10 µg/ml) for 2 days. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution.

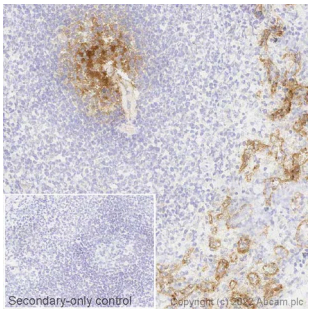


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

Semaphorin 7a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Semaphorin 7a antibody

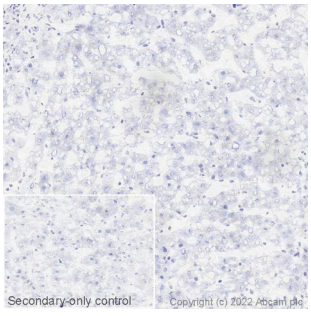
Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling Semaphorin 7a with ab263900 at 1/100 followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human tonsil is observed. The section was incubated with ab263900 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



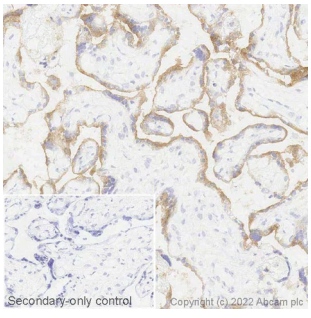
Immunohistochemistry (Frozen sections) - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

IHC image of Semaphorin 7a staining in a section of human normal frozen spleen* performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab263900, 0.5ugml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. *Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Frozen sections) - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

Negative control image: IHC image of Semaphorin 7a staining in a section of human normal frozen liver* performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab263900, 0.5ugml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. *Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Frozen sections) - Anti-Semaphorin 7a antibody [EPR22644-316] (ab263900)

IHC image of Semaphorin 7a staining in a section of human normal frozen placenta* performed on a Leica Biosystems BOND® RX instrument using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab263900, 0.5ugml, for 15 mins at room temperature and detected using an HRP conjugated compact

polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. *Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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