abcam

Product datasheet

Anti-SEMA4A antibody ab70178

3 References 4 Images

Overview

Product name	Anti-SEMA4A antibody
Description	Rabbit polyclonal to SEMA4A
Specificity	This antibody detects endogenous levels of total SEMA4A protein.
Tested applications	**Suitable for:** IP, WB, ELISA, IHC-P, ICC/IF
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	A synthesized peptide derived from the internal region of human SEMA4A.
Positive control	Extracts from COS-7 and Jurkat cells. Human brain tissue sections.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 50% Glycerol, PBS (without Mg^{2+} and Ca^{2+}), 150mM Sodium chloride, pH 7.4
Purity	Immunogen affinity purified
Purification notes	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab70178** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at an assay dependent concentration.

Application	Abreviews	Notes
WB		1/500 - 1/1000. Predicted molecular weight: 84 kDa.
ELISA		1/10000.
IHC-P		1/50 - 1/100.
ICC/IF		Use a concentration of 10 µg/ml.

Target

Function

Inhibits axonal extension by providing local signals to specify territories inaccessible for growing axons.

Involvement in disease

Defects in SEMA4A are the cause of retinitis pigmentosa type 35 (RP35) [MIM:610282]. RP leads to degeneration of retinal photoreceptor cells. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well.
Defects in SEMA4A are the cause of cone-rod dystrophy type 10 (CORD10) [MIM:610283]. CORDs are inherited retinal dystrophies belonging to the group of pigmentary retinopathies. CORDs are characterized by retinal pigment deposits visible on fundus examination, predominantly in the macular region, and initial loss of cone photoreceptors followed by rod degeneration. This leads to decreased visual acuity and sensitivity in the central visual field, followed by loss of peripheral vision. Severe loss of vision occurs earlier than in retinitis pigmentosa.

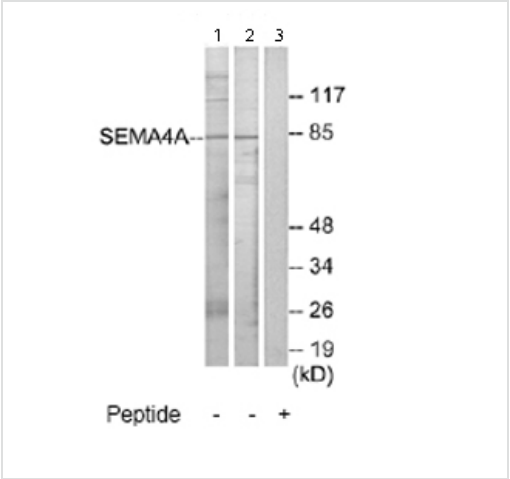
Sequence similarities

Belongs to the semaphorin family.
Contains 1 Ig-like C2-type (immunoglobulin-like) domain.
Contains 1 PSI domain.
Contains 1 Sema domain.

Cellular localization

Membrane.

Images



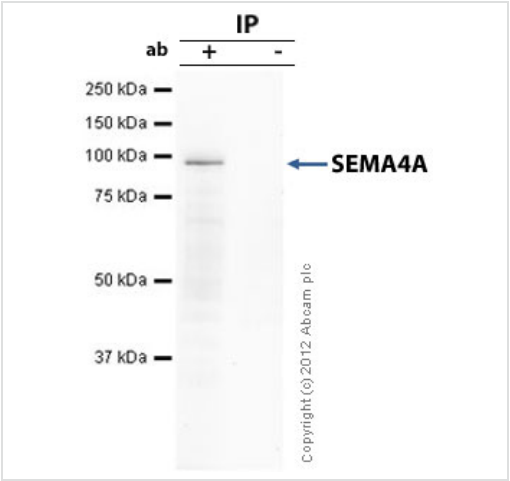
Western blot - SEMA4A antibody (ab70178)

All lanes : Anti-SEMA4A antibody (ab70178) at 1/500 dilution

Lane 1 : Extracts from COS-7 cells
Lane 2 : Extracts from Jurkat cells
Lane 3 : Extracts from COS-7 cells with immunizing peptide at 10 µg

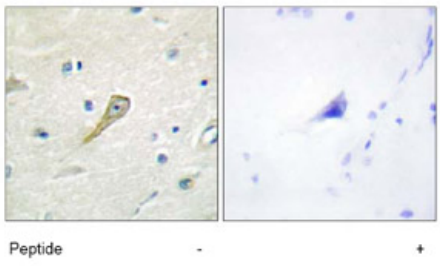
Lysates/proteins at 30 µg per lane.

Predicted band size : 84 kDa
Observed band size : 84 kDa
Additional bands at : 117 kDa,26 kDa. We are unsure as to the identity of these extra bands.



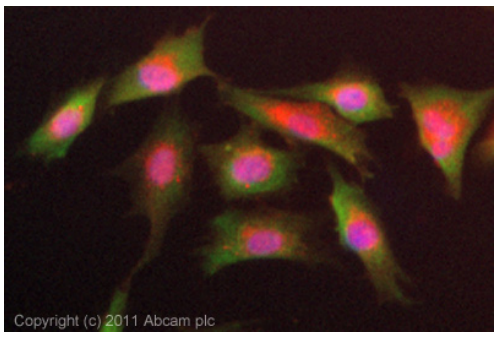
Immunoprecipitation - Anti-SEMA4A antibody (ab70178)

SEMA4A was immunoprecipitated using 0.5mg Jurkat whole cell extract, 5µg of Rabbit polyclonal to SEMA4A and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Jurkat whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70^{o}C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab70178.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (ab99697).
Band: Band: 90kDa: SEMA4A.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - SEMA4A antibody (ab70178)

Immunohistochemistry analysis of paraffin-embedded human brain tissue using ab70178 at 1/50-1/100 dilution.
Left image un-treated.
Right image treated with immunizing peptide.



Immunocytochemistry/ Immunofluorescence - Anti-SEMA4A antibody (ab70178)

ICC/IF image of ab70178 stained SKNSH cells. The cells were 4% formaldehyde (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab70178, 10µg/ml) overnight at +4°C. The secondary antibody (green) was ab96899 Dylight 488 goat anti-rabbit IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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