abcam

ab313779

Anti-NCAM1/CD56 antibody [EPR26939-108]

Recombinant | RabMAb | 20ul selling size

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	EPR26939-108
Purification technique	Affinity purification Protein A
Concentration	0.508 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information NCAM1/CD56

Function	This protein is a cell adhesion molecule involved in neuron-neuron adhesion, neurite fasciculation, outgrowth of neurites, etc. (Microbial infection) Acts as a receptor for rabies virus. (Microbial infection) Acts as a receptor for Zika virus.

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	NCAM1 also known as Neural Cell Adhesion Molecule 1 or CD56 is an important cell surface glycoprotein that plays a role in cell-cell adhesion. It has a molecular mass of approximately 120-140 kDa. NCAM1 is widely expressed in various tissues including the nervous system skeletal muscle and certain hematopoietic cells. In flow cytometry and immunohistochemistry NCAM1's expression is extensively studied to track and analyze cell populations using techniques like NCAM1 ELISA for quantification.
Biological function summary	NCAM1 influences neuronal growth survival and synaptic plasticity. This protein is part of the immunoglobulin superfamily and contributes to dynamic interactions during development. NCAM1 exists on cell membranes assisting in the formation and maintenance of tissue structures. In particular cell adhesion molecule CAL53 interacts with NCAM1 highlighting its involvement in synaptic connections. Additionally NCAM1 impacts cellular migration and differentiation particularly in myogenic processes involving MY31's pathway.
Pathways	The NCAM1 protein participates in the MAPK signaling pathway and the PI3K/AKT pathway both essential in cellular growth and survival. NCAM1 acts alongside ERIC1 aiding in the transduction of signals that regulate cytoskeletal rearrangement. These pathways influence cellular communication and responses to external stimuli further enhancing tissue development and regeneration mechanisms.
Associated diseases and disorders	NCAM1 is associated with neurodegenerative conditions like Alzheimer's disease and certain types of cancer including neuroblastoma. Changes in NCAM1 expression or function can disrupt normal cell adhesion and signaling leading to pathological states. The protein's interaction with cell surface markers such as

CD56 mouse marker helps in the diagnosis and therapy of these disorders providing potential therapeutic targets or biomarkers for clinical applications.

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

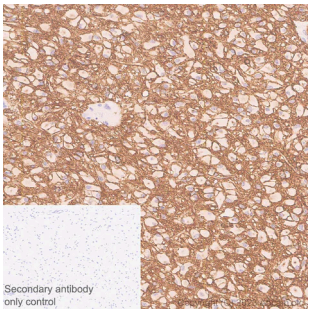
We do not recommend this combination. It is not covered by our product promise.

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.

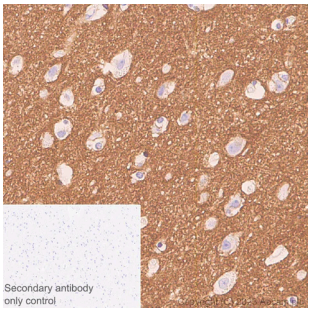
12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human astrocytoma using rabbit Anti-NCAM1/CD56 antibody

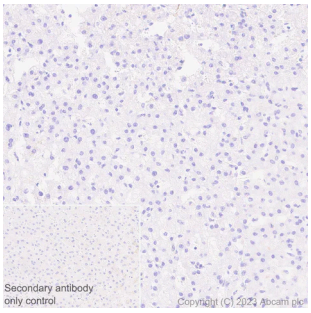
Immunohistochemical analysis of paraffin-embedded Human astrocytoma tissue labeling NCAM1 with ab313779 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human astrocytoma.The section was incubated with ab313779 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrumentIncubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebrum using rabbit Anti-NCAM1/CD56 antibody

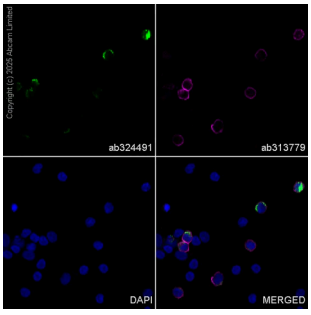
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling NCAM1 with ab313779 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human cerebrum (PMID: 19246644).The section was incubated with ab313779 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrumentIncubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human liver using rabbit Anti-NCAM1/CD56 antibody

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling NCAM1 with ab313779 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on human liver.The section was incubated with ab313779 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrumentIncubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



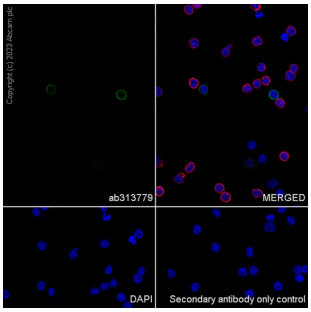
Immunocytochemistry/ Immunofluorescence - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunocytochemistry/ Immunofluorescence staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-NCAM1/CD56 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human PBMC (human peripheral blood mononuclear cell) cells labelling Perforin with ab324491 at 1/100 (10.21 ug/ml) dilution, followed by ab150117 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing cytoplasmic staining in subsets of human PBMCs (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

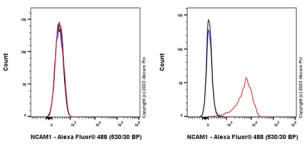
ab313779 Anti-NCAM1(CD56) rabbit monoclonal antibody was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution, followed by ab150088 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) preadsorbed at 1/1000 (2 ug/ml) (Magenta).



Immunocytochemistry/ Immunofluorescence - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunocytochemistry/ Immunofluorescence staining of Human PBMC (human primary peripheral blood mononuclear cell) using rabbit Anti-NCAM1/CD56 antibody

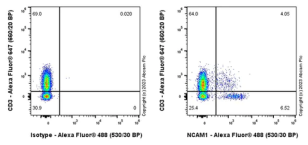
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized Human PBMC (human primary peripheral blood mononuclear cell) cells labelling NCAM1 with ab313779 at 1/500 (1.016 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing membranous staining in subsets of human PBMCs, which is not co-localized with CD3.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. Anti-human CD3 mouse monoclonal antibody (Alexa Fluor® 647) was used to counterstain tubulin at 1/200 2.5 dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Flow Cytometry staining using rabbit Anti-NCAM1/CD56 antibody

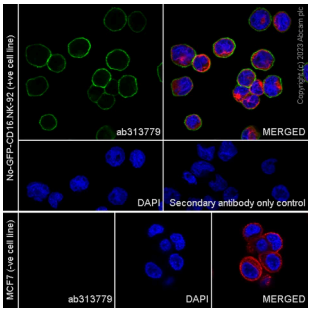
Flow cytometric analysis of MCF7 (human breast adenocarcinoma epithelial cell, Left) - / No-GFP-CD16.NK-92 (CD16 ectopically expressed natural killer(NK-92®) cell with no GFP tag) (Right) cells labelling NCAM1 with ab313779 at 1/500 dilution (0.1 ug)/Red compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Negative control: MCF7 (PMID: 30050775). Gated on viable cells.



Flow Cytometry - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-NCAM1/CD56 antibody

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling NCAM1 with ab313779 at 1/500 dilution (0.1 ug)/Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Cells are co-stained with CD3 conjugated to Alexa Fluor®647. Gated on viable cells.

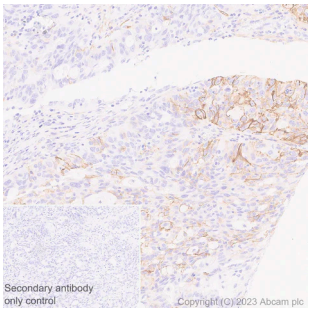


Immunocytochemistry/ Immunofluorescence - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NCAM1/CD56 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized No-GFP-CD16.NK-92 (CD16 ectopically expressed natural killer(NK-92®) cell with no GFP tag) cells labelling NCAM1 with ab313779 at 1/500 (1.016 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing membranous staining in No-GFP-CD16.NK-92 cell line.Negative control:

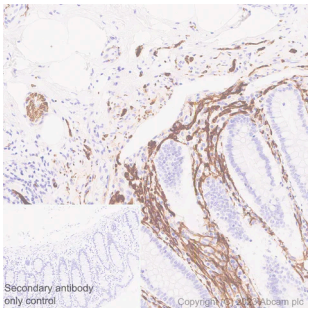
MCF7 (PMID: 30050775).Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human ovarian carcin using rabbit Anti-NCAM1/CD56 antibody

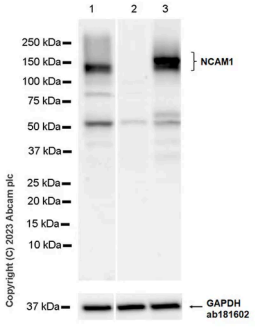
Immunohistochemical analysis of paraffin-embedded Human ovarian carcin tissue labeling NCAM1 with ab313779 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human ovarian carcinoma.The section was incubated with ab313779 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrumentIncubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human appendix using rabbit Anti-NCAM1/CD56 antibody

Immunohistochemical analysis of paraffin-embedded Human appendix tissue labeling NCAM1 with ab313779 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on stroma of human appendix (PMID: 27015206).The section was incubated with ab313779 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrumentIncubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Western blot - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Western blot staining using rabbit Anti-NCAM1/CD56 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: MCF7 (PMID: 18772882).

The 120, 140 and 180kDa bands are different isoforms as reported in the literature (PMID:26288071)

The identity of the lower MW bands at approximately 75 kDa and 50kDa are unknown.

In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution.

Exposure time: Lane 1: 147 seconds; Lane 2, 3: 92 seconds.

All lanes:
Western blot - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779) at 1/1000 dilution

Lane 1:
No-GFP-CD16.NK-92 (CD16 ectopically expressed natural killer(NK-92®) cell with no GFP tag) whole cell lysate at 20 µg

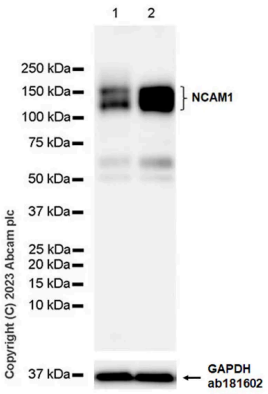
Lane 2:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 120 kDa, 140 kDa, 180 kDa



Western blot - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779)

NCAM1/CD56 Western blot staining using rabbit Anti-NCAM1/CD56 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The 120, 140 and 180kDa bands are different isoforms as reported in the literature (PMID:26288071).

In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution.

All lanes:
Western blot - Anti-NCAM1/CD56 antibody [EPR26939-108] (ab313779) at 1/1000 dilution

Lane 1:
Human hippocampus tissue lysate at 20 µg

Lane 2:
Human cerebellum tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 120 kDa, 140 kDa, 180 kDa

Exposure time: 15s

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