abcam

ab220360

Anti-NCAM1/CD56 antibody [EPR21827]

Anti-NCAM1/CD56 antibody [EPR21827] (ab220360) is a rabbit monoclonal antibody detecting NCAM1/CD56 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

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	EPR21827
Purification technique	Affinity purification Protein A
Concentration	0.51 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Species	Rat
Dilution info	1/30
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/600
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

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

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

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.

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

What is this antibody validated in?
Anti-NCAM1 antibody [EPR21827] (ab220360) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Mouse, Rat samples.

What is the molecular weight of NCAM1?
Anti-NCAM1 [EPR21827] (ab220360) specifically detects a band for NCAM1 (UniProt: P13595) at a molecular weight of 95kDa.

Trusted by the scientific community
Anti-NCAM1 [EPR21827] (ab220360) was first used in a scientific publication in 2018 and has been cited over 10 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR21827] also available for your convenience: ab220360, Carrier free - ab231826, Alexa Fluor® 488 - ab237380, PE - ab237381, FITC - ab237382, APC - ab237383, Alexa Fluor® 647 - ab302694, Alexa Fluor® 594 - ab303720

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size 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

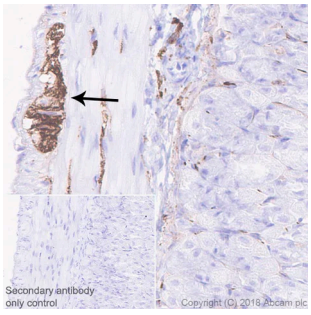
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images

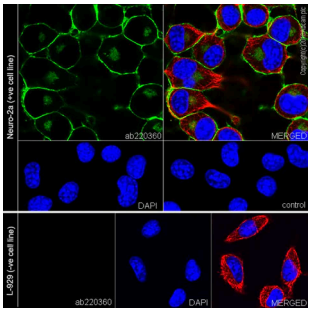


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Immunohistochemical analysis of paraffin-embedded mouse stomach tissue labeling NCAM1 with ab220360 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), Ready to use. Positive staining of ganglion (arrow) in mouse stomach (PMID: 1705171). Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rab it IgG H&L (HRP), Ready to use.

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



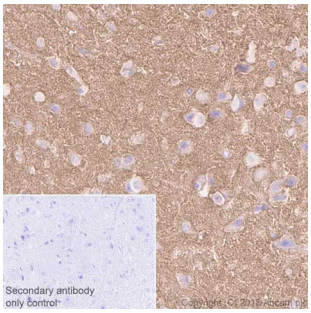
Immunocytochemistry/ Immunofluorescence - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized Neuro-2a (mouse neuroblastoma cell line) cells labeling NCAM1 with ab220360 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous staining in Neuro-2a cell line.
Negative control: L-929 PMID: 9696812).

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



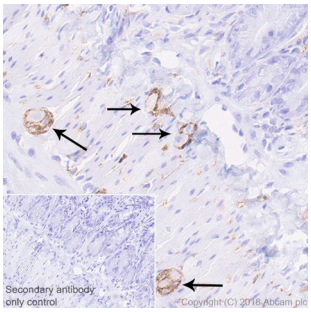
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labeling NCAM1 with ab220360 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), Ready to use.

Positive staining on mouse cerebrum (PMID: 1705171). Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rab it IgG H&L (HRP), Ready to use.

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

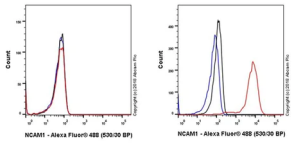


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Immunohistochemical analysis of paraffin-embedded rat colon tissue labeling NCAM1 with ab220360 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), Ready to use. Positive staining of ganglia (arrows) in rat colon (PMID: 1705171). Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rab it IgG H&L (HRP), Ready to use.

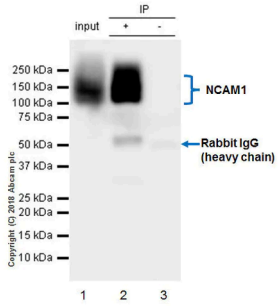
Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Flow cytometric analysis of L-929 (mouse connective tissue fibroblast cell line) cell line (left panel) and Neuro-2a (mouse neuroblastoma cell line) cell line (right panel) labeling NCAM1 with ab220360 at 1/500 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
Gated on viable cells. **Negative control:** L-929.



Immunoprecipitation - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

NCAM1 was immunoprecipitated from 0.35 mg of mouse brain lysate with ab220360 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab220360 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: Mouse brain lysate 10 µg (Input).

Lane 2: ab220360 IP in mouse brain lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab220360 in mouse brain lysate.

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

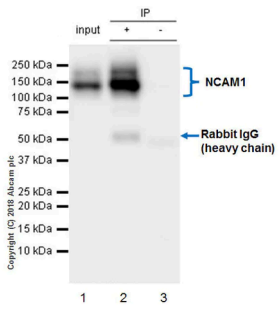
Exposure time: 1 second.

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

All lanes:
Immunoprecipitation - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

Predicted band size: 94 kDa

Observed band size: 120-200 kDa



Immunoprecipitation - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

NCAM1 was immunoprecipitated from 0.35 mg of rat brain lysate with ab220360 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab220360 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: Rat brain lysate 10 µg (Input).

Lane 2: ab220360 IP in rat brain lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab220360 in rat brain lysate.

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

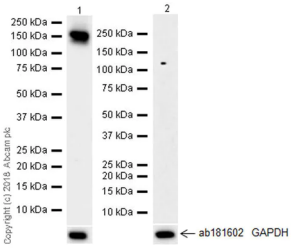
Exposure time: 1 second.

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

All lanes:
Immunoprecipitation - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

Predicted band size: 94 kDa

Observed band size: 120-200 kDa



Western blot - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Blocking/Dilution buffer: 5% NFDM/TBST.
Negative control: L-929 (PMID: 9696812)

All lanes:
Western blot - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360) at 1/1000 dilution

Lane 1:
Neuro-2a (mouse neuroblastoma cell line) whole cell lysate at 10 µg

Lane 2:
L-929 (mouse connective tissue fibroblast cell line) whole cell lysate at 10 µg

Secondary

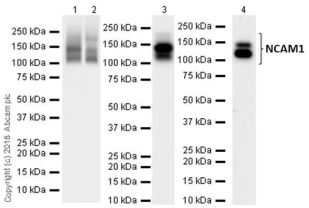
All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Developed using the ECL technique.

Predicted band size: 94 kDa

Observed band size: 140 kDa

Exposure time: 70s



Western blot - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360)

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

Exposure time: Lanes 1-2: 26 seconds; Lane 3: 70 seconds; Lane 4: 3 minutes.
Blocking/Dilution buffer: 5% NFDM/TBST.

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

All lanes:
Western blot - Anti-NCAM1/CD56 antibody [EPR21827] (ab220360) at 1/5000 dilution

Lane 1:
Mouse brain lysate at 20 µg

Lane 2:
Mouse cerebellum lysate at 20 µg

Lane 3:
Rat brain lysate at 20 µg

Lane 4:
Rat cerebellum lysate at 20 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 94 kDa

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

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