abcam

## ab75813

# Anti-NCAM1/CD56 antibody [EP2567Y]

Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813) is a rabbit monoclonal antibody detecting NCAM1/CD56 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 50 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** | EP2567Y |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.178 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

### IHC-P

**Tested**

| | |
|---|---|
| **Species** | Human |

| | |
|---|---|
| **Dilution info** | 1/10000 |
| **Notes** | Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |

## IP

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20 |
| **Notes** | For unpurified use at 1:100 dilution |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50000 - 1/100000 |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | For unpurified use at 1:100 - 1:250 dilution range |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.<br>For unpurified use at 1:1000 dilution. |

## 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 conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Storage information** | Stable for 12 months at -20°C |

## Notes

**What is this antibody validated in?**
Anti-NCAM1 antibody [EP2567Y] (ab75813) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

**What is the molecular weight of NCAM1?**
Anti-NCAM1 [EP2567Y] (ab75813) specifically detects a band for NCAM1 (UniProt: P13591) at a molecular weight of 93kDa.

**Trusted by the scientific community**
Anti-NCAM1 [EP2567Y] (ab75813) was first used in a scientific publication in 2012 and has been cited over 50 times in peer-reviewed journals.

**Reviewed by scientists**
Anti-NCAM1 [EP2567Y] (ab75813) has over 5 independent reviews from customers.

**Other related products**
We have a range of other formats of antibody clone [EP2567Y] also available for your convenience: ab75813, Carrier free - ab214435, Carrier free - ab215981, Alexa Fluor® 488 - ab237455, Alexa Fluor® 647 - ab237456, PE - ab237457, APC - ab303037, HRP - ab303038, Alexa Fluor® 594 - ab303718, Alkaline Phosphatase - ab308689, Alexa Fluor® 555 - ab311923, Alexa Fluor® 568 - ab312394, Alexa Fluor® 750 - ab321697

**Species reactivity**
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

**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.

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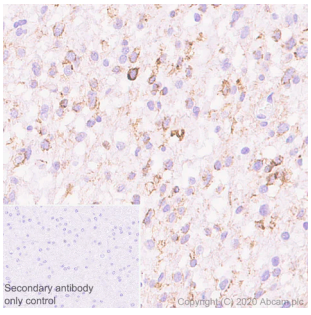
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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## 6 product images

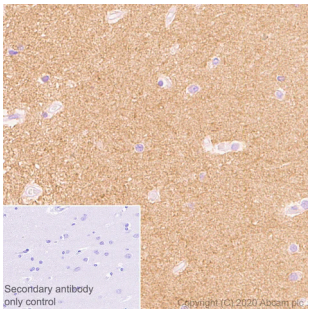



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human astrocytoma tissue sections labeling NCAM1 with Purified ab75813 at 1:10000 dilution (0.0156 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.

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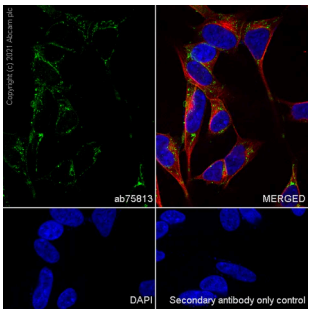



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cerebrum tissue sections labeling NCAM1 with Purified ab75813 at 1/10000 dilution (0.02 µg/ml).

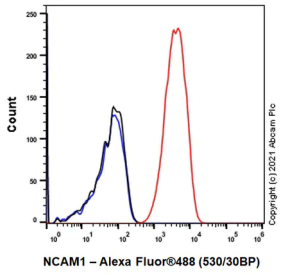
Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody. PBS instead of the primary antibody was used as the negative control.




## Immunocytochemistry/ Immunofluorescence - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

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

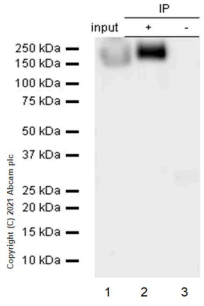
Immunocytochemistry analysis of SH-SY5Y (Human neuroblastoma epithelial cell) cells labeling NCAM1 with Purified ab75813 at 1:50 dilution (3.1 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.




## Flow Cytometry (Intracellular) - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

NCAM1/CD56 Flow Cytometry (Intracellular) staining using rabbit Anti-NCAM1/CD56 antibody

Flow Cytometry analysis of SH-SY5Y (Human neuroblastoma epithelial cell) cells labelling NCAM1 with Purified ab75813 at 1:20 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).




## Immunoprecipitation - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

NCAM1 was immunoprecipitated from 0.35 mg SH-SY5Y (Human neuroblastoma epithelial cell) whole cell lysate 10 µg with ab75813 at 1/50 dilution (2µg). VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
**Lane 1**: SH-SY5Y (Human neuroblastoma epithelial cell) whole cell lysate 10 µg

**Lane 2**: ab75813 IP in SH-SY5Y whole cell lysate

**Lane 3**: Rabbit monoclonal IgG (ab172730) instead of ab75813 in SH-SY5Y whole cell lysate

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

All lanes:
Immunoprecipitation - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

Predicted band size: 94 kDa

Observed band size: 180 kDa




# Western blot - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813)

NCAM1/CD56 Western blot staining of SH-SY5Y (Human neuroblastoma epithelial cell) whole cell lysate using rabbit Anti-NCAM1/CD56 antibody

All lanes:
Western blot - Anti-NCAM1/CD56 antibody [EP2567Y] (ab75813) at 1/10000 dilution

All lanes:
SH-SY5Y (Human neuroblastoma epithelial cell) whole cell lysate at 15 µg

Secondary

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

Predicted band size: 94 kDa

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