abcam

ab248324

Anti-NCS1 antibody [EPR7699] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR7699
Purification technique	Affinity purification Protein A
Concentration	1.038 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/10000

Notes	Non-specific staining on human kidney, thyroid, and smooth muscle; mouse and rat kidney, liver, and smooth muscle.

Species	Mouse
Dilution info	1/10000
Notes	Non-specific staining on human kidney, thyroid, and smooth muscle; mouse and rat kidney, liver, and smooth muscle.

Species	Rat
Dilution info	1/10000
Notes	Non-specific staining on human kidney, thyroid, and smooth muscle; mouse and rat kidney, liver, and smooth muscle.

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information NCS1

Function	Neuronal calcium sensor, regulator of G protein-coupled receptor phosphorylation in a calcium dependent manner. Directly regulates GRK1 (RHOK), but not GRK2 to GRK5. Can substitute for calmodulin (By similarity). Stimulates PI4KB kinase activity (By similarity). Involved in long-term synaptic plasticity through its interaction with PICK1 (By similarity). May also play a role in neuron differentiation through inhibition of the activity of N-type voltage-gated calcium channel (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab248324 is the carrier-free version of ab129166.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The target 'NCS1' also known as Neuronal Calcium Sensor 1 is a small protein with a mass of approximately 22 kDa. This protein binds calcium ions and plays an important role in calcium signaling pathways. It is broadly expressed in neuronal tissues where it assists in regulating neurotransmitter release and synaptic plasticity. NCS1 belongs to a family of calcium-binding proteins characterized by EF-hand motifs which allow calcium ion attachment and subsequent conformational changes.
Biological function summary	NCS1 modulates intracellular calcium concentrations which are critical for numerous cellular functions. It interacts with various signaling proteins and receptors impacting cell signaling and communication. NCS1 does not operate alone but functions as part of larger protein complexes which modulate its activity and extend its biological roles. Its involvement supports neuronal processes like growth and differentiation by modulating the effect of calcium signals within the nerve cells.
Pathways	NCS1 plays a role in the phosphoinositide signaling pathway and the regulation of calcium homeostasis. It works alongside proteins such as phosphatidylinositol 4-kinase III beta (PI4KB) to maintain the balance of calcium in cells. NCS1 participation in signaling pathways ensures that calcium influx and release from intracellular stores happen efficiently which is essential for the transmission of signals across synapses.
Associated diseases and disorders	NCS1 is associated with neurological conditions such as schizophrenia and bipolar disorder. Alterations in NCS1 expression or function can affect calcium signaling leading to disruptions in neuronal communication and function. Furthermore NCS1 interacts with dopamine receptor D2 (DRD2) which is significant in the development of these psychiatric conditions. Understanding the role of NCS1 in these disorders can provide insights into potential therapeutic targets for managing such diseases.

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.

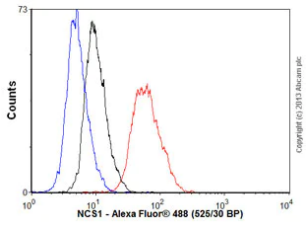
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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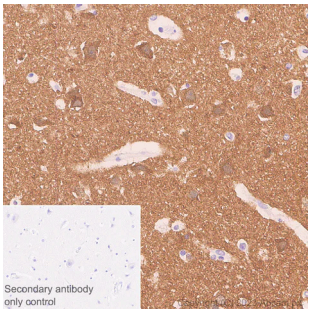
8 product images



Flow Cytometry (Intracellular) - Anti-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

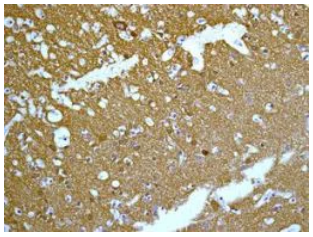
NCS1 Flow Cytometry (Intracellular) staining using rabbit Anti-NCS1 antibody

This data was developed using ab129166, the same antibody clone in a different buffer formulation.
Overlay histogram showing SH-SY5Y cells stained with ab129166 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab129166, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

Immunohistochemical analysis of paraffin-embedded human cerebrum tissue labelling NCS1 with ab248324 at 1/10000 (0.101 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. Positive staining on human cerebrum. The section was incubated with ab248324 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Incubate 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 LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.

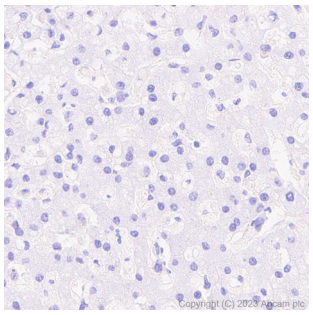


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

NCS1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NCS1 antibody

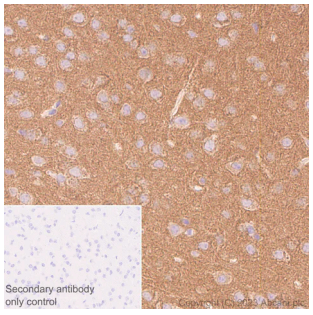
This data was developed using ab129166, the same antibody clone in a different buffer formulation.
ab129165, at 1/250 dilution staining NCS1 in paraffin-embedded Human brain tissue, by Immunohistochemistry.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



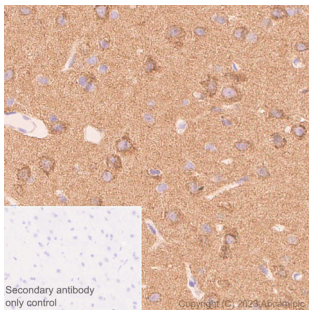
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

Immunohistochemical analysis of paraffin-embedded human liver tissue labelling NCS1 with ab248324 at 1/10000 (0.101 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. **Negative control:** no staining on human liver. The section was incubated with ab248324 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background. Counterstained with hematoxylin. 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-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

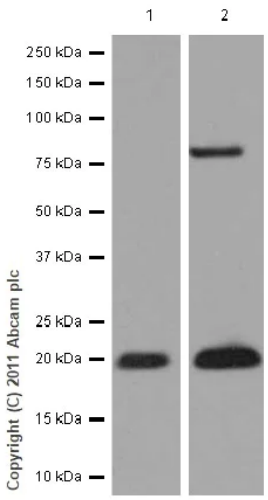
Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labelling NCS1 with ab248324 at 1/10000 (0.101 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. Positive staining on mouse cerebrum. The section was incubated with ab248324 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Incubate 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 LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. 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-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

Immunohistochemical analysis of paraffin-embedded rat cerebrum tissue labelling NCS1 with ab248324 at 1/10000 (0.101 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. Positive staining on rat cerebrum. The section was incubated with ab248324 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Incubate 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 LeicaDS9800 (Bond™ Polymer Refine Detection) at a ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Western blot - Anti-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

Blocking buffer and concentration: 5% NFDM/TBST **Diluting buffer and concentration:** 5% NFDM/TBST This data was developed using ab129166, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-NCS1 antibody [EPR7699] (ab129166) at 1/5000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Rat brain tissue lysate at 20 µg

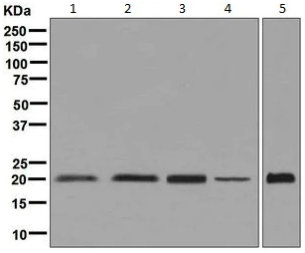
Secondary

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

Predicted band size: 22 kDa

Observed band size: 21 kDa

Exposure time: 180s



Western blot - Anti-NCS1 antibody [EPR7699] - BSA and Azide free (ab248324)

This data was developed using ab129166, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-NCS1 antibody [EPR7699] (ab129166) at 1/1000 dilution

Lane 1:
U-87 MG cell lysates at 10 µg

Lane 2:
SH-SY5Y cell lysates at 10 µg

Lane 3:
A549 cell lysates at 10 µg

Lane 4:
293T cell lysates at 10 µg

Lane 5:
Fetal brain tissue lysates at 10 µg

Secondary

All lanes:
Goat anti-Rabbit HRP at 1/2000 dilution

Predicted band size: 22 kDa

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