abcam

ab129166

Anti-NCS1 antibody [EPR7699]

Recombinant | RabMAb

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	EPR7699
Purification technique	Affinity purification Protein A
Concentration	0.332 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/10000
Notes	Non-specific staining on human kidney, thyroid, and smooth muscle; mouse and rat kidney, liver, and smooth muscle.

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

Species	Rat
Dilution info	1/250 - 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	1/250 - 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
Dilution info	1/1000 - 1/10000
Notes	-

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Rat, Mouse
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	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

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	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

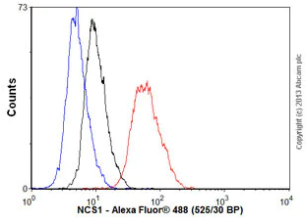
We do not recommend this combination. It is not covered by our product promise.

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.

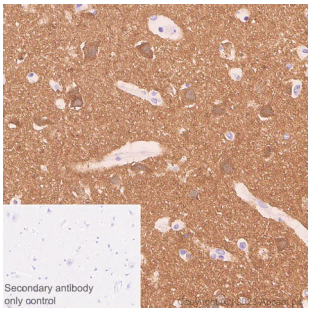
8 product images



Flow Cytometry (Intracellular) - Anti-NCS1 antibody [EPR7699] (ab129166)

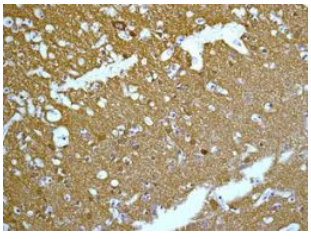
NCS1 Flow Cytometry (Intracellular) staining using rabbit Anti-NCS1 antibody

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 >5000 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] (ab129166)

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. This data was developed using ab248324, the same antibody clone in a different buffer formulation.

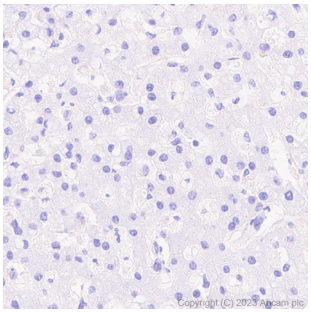


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] (ab129166)

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

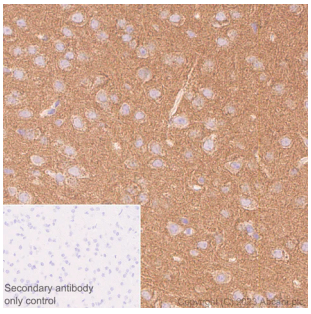
ab129165 at 1/250 dilution staining NCS1 in paraffin-embedded Human brain tissue by Immunohistochemistry.

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



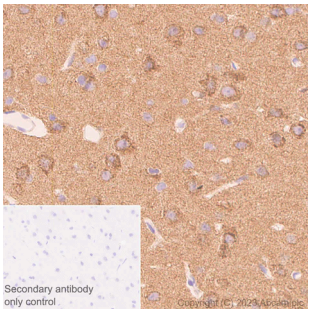
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] (ab129166)

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. This data was developed using ab248324, the same antibody clone in a different buffer formulation.



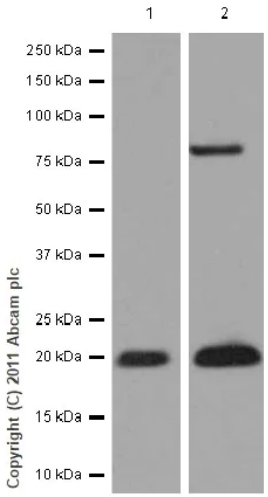
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] (ab129166)

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. This data was developed using ab248324, the same antibody clone in a different buffer formulation.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NCS1 antibody [EPR7699] (ab129166)

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. This data was developed using ab248324, the same antibody clone in a different buffer formulation.



Western blot - Anti-NCS1 antibody [EPR7699] (ab129166)

Blocking buffer and concentration: 5% NFDM/TBST **Diluting buffer and concentration:** 5% NFDM/TBST
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

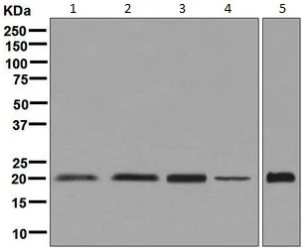
Secondary

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] (ab129166)

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'.