

# NCS-1 (FL-190): sc-13037

## BACKGROUND

NCS-1 (for neuronal calcium sensor-1, also designated frequenin) belongs to a highly conserved family of EF-hand-containing  $Ca^{2+}$ -binding proteins expressed mainly in neurons. NCS-1 is localized to neuronal cell bodies and axons throughout the brain and spinal cord. It is also expressed in glial cells and in neuroendocrine bovine adrenal chromaffin and PC12 cells. NCS-1 is a regulatory protein involved in  $Ca^{2+}$ -dependent exocytosis of synaptic vesicles and dense core granules. NCS-1 also functions in the voltage-independent autocrine pathway that negatively regulates non-L-type  $Ca^{2+}$  channels.

## REFERENCES

1. Pongs, O., et al. 1993. Frequenin—a novel calcium-binding protein that modulates synaptic efficacy in the *Drosophila* nervous system. *Neuron* 11: 15-28.
2. Cox, J.A., et al. 1994. Cation binding and conformational changes in VILIP and NCS-1, two neuron-specific calcium-binding proteins. *J. Biol. Chem.* 269: 32807-32813.

## CHROMOSOMAL LOCATION

Genetic locus: FREQ (human) mapping to 9q34.11; Freq (mouse) mapping to 2 B.

## SOURCE

NCS-1 (FL-190) is a rabbit polyclonal antibody raised against amino acids 1-190 representing full length NCS-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NCS-1 (FL-190) is available conjugated to agarose (sc-13037 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP.

## APPLICATIONS

NCS-1 (FL-190) is recommended for detection of NCS-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NCS-1 (FL-190) is also recommended for detection of NCS-1 in additional species, including bovine, porcine and avian.

Suitable for use as control antibody for NCS-1 siRNA (h): sc-36019, NCS-1 siRNA (m): sc-36020, NCS-1 shRNA Plasmid (h): sc-36019-SH, NCS-1 shRNA Plasmid (m): sc-36020-SH, NCS-1 shRNA (h) Lentiviral Particles: sc-36019-V and NCS-1 shRNA (m) Lentiviral Particles: sc-36020-V.

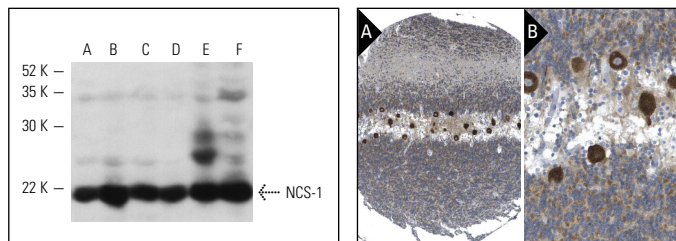
Molecular Weight of NCS-1: 21 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, U-87 MG cell lysate: sc-2411 or T98G cell lysate: sc-2294.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



NCS-1 (FL-190): sc-13037. Western blot analysis of NCS-1 expression in PC-12 (A), U-87 MG (B), T98G (C) and SK-N-SH (D) whole cell lysates and rat cerebellum (E) and mouse brain tissue extracts (F).

NCS-1 (FL-190): sc-13037. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

1. Rosa, D.V., et al. 2007. NCS-1 expression in rat brain after electroconvulsive stimulation. *Neurochem. Res.* 32: 81-85.
2. Souza, B.R., et al. 2008. DARPP-32 and NCS-1 expression is not altered in brains of rats treated with typical or atypical antipsychotics. *Neurochem. Res.* 33: 533-538.
3. Souza, R.P., et al. 2008. Methylphenidate alters NCS-1 expression in rat brain. *Neurochem. Int.* 53: 12-16.
4. Navarro, G., et al. 2012. NCS-1 associates with adenosine A(2A) receptors and modulates receptor function. *Front. Mol. Neurosci.* 5: 53.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **NCS-1 (G-4): sc-376206** or **NCS-1 (1): sc-136000**, our highly recommended monoclonal alternatives to NCS-1 (FL-190).