

# NCS-1 (1): sc-136000

## BACKGROUND

NCS-1 (for neuronal calcium sensor-1, also designated frequenin) belongs to a highly conserved family of EF-hand-containing Ca<sup>2+</sup>-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<sup>2+</sup>-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<sup>2+</sup> 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.
3. Olafsson, P., et al. 1997. The Ca<sup>2+</sup> binding protein, frequenin is a nervous system-specific protein in mouse preferentially localized in neurites. *Brain Res. Mol. Brain Res.* 44: 73-82.
4. McFerran, B.W., et al. 1998. Neuronal Ca<sup>2+</sup> sensor 1, the mammalian homologue of frequenin, is expressed in chromaffin and PC12 cells and regulates neurosecretion from dense-core granules. *J. Biol. Chem.* 273: 22768-22772.
5. Braunewell, K.H., et al. 1999. Intracellular neuronal calcium sensor proteins: a family of EF-hand calcium-binding proteins in search of a function. *Cell Tissue Res.* 295: 1-12.
6. Martone, M.E., et al. 1999. Cellular and subcellular distribution of the calcium-binding protein NCS-1 in the central nervous system of the rat. *Cell Tissue Res.* 295: 395-407.
7. Weiss, J.L., et al. 2000. NCS-1/frequenin functions in an autocrine pathway regulating Ca<sup>2+</sup> channels in bovine adrenal chromaffin cells. *J. Biol. Chem.* 275: 40082-40087.

## CHROMOSOMAL LOCATION

Genetic locus: NCS1 (human) mapping to 9q34.11; Ncs1 (mouse) mapping to 2 B.

## SOURCE

NCS-1 (1) is a mouse monoclonal antibody raised against amino acids 1-190 representing full length NCS-1 of rat origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

## STORAGE

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

## APPLICATIONS

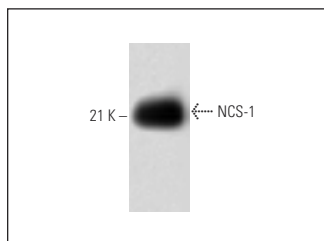
NCS-1 (1) is recommended for detection of NCS-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for NCS-1 siRNA (h): sc-36019, NCS-1 siRNA (m): sc-36020, NCS-1 siRNA (r): sc-270206, NCS-1 shRNA Plasmid (h): sc-36019-SH, NCS-1 shRNA Plasmid (m): sc-36020-SH, NCS-1 shRNA Plasmid (r): sc-270206-SH, NCS-1 shRNA (h) Lentiviral Particles: sc-36019-V, NCS-1 shRNA (m) Lentiviral Particles: sc-36020-V and NCS-1 shRNA (r) Lentiviral Particles: sc-270206-V.

Molecular Weight of NCS-1: 21 kDa.

Positive Controls: mouse brain extract: sc-2253, U-87 MG cell lysate: sc-2411 or T98G cell lysate: sc-2294.

## DATA



NCS-1 (1): sc-136000. Western blot analysis of NCS-1 expression in rat cerebrum tissue extract.

## RESEARCH USE

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

## PROTOCOLS

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