

NALCN (N-20): sc-84520

BACKGROUND

NALCN (sodium leak channel non-selective protein), also known as Canlon or VGICNL1 (voltage gated channel-like protein 1), is a 1,738 amino acid multi-pass membrane protein that belongs to the cation-nonselective channel family. NALCN is highly conserved in mammals and is widely expressed in the central nervous system. Activated by NK-1R, NALCN is a voltage-independent, non-selective cation channel which is permeable to sodium, potassium and calcium ions. NALCN is responsible for background sodium ion leak conductance in neurons and regulates basal excitability of the nervous systems. Defects of NALCN in mice causes disruption in respiratory rhythm and death occurs within 24 hours of birth. Three isoforms of NALCN exists due to alternative splicing events.

REFERENCES

1. Lee, J.H., et al. 1999. Cloning of a novel four repeat protein related to voltage-gated sodium and calcium channels. *FEBS Lett.* 445: 231-236.
2. Lu, B., et al. 2007. The neuronal channel NALCN contributes resting sodium permeability and is required for normal respiratory rhythm. *Cell* 129: 371-383.
3. Jospin, M., et al. 2007. UNC-80 and the NCA ion channels contribute to endocytosis defects in synaptojanin mutants. *Curr. Biol.* 17: 1595-1600.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611549. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Gaultier, C. and Gallego, J. 2008. Neural control of breathing: insights from genetic mouse models. *J. Appl. Physiol.* 104: 1522-1530.
6. Yeh, E., et al. 2008. A putative cation channel, NCA-1, and a novel protein, UNC-80, transmit neuronal activity in *C. elegans*. *PLoS Biol.* 6: e55.

CHROMOSOMAL LOCATION

Genetic locus: NALCN (human) mapping to 13q33.1; Nalcn (mouse) mapping to 14 E5.

SOURCE

NALCN (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of NALCN of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

NALCN (N-20) is recommended for detection of NALCN of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

NALCN (N-20) is also recommended for detection of NALCN in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NALCN siRNA (h): sc-75861, NALCN siRNA (m): sc-149810, NALCN shRNA Plasmid (h): sc-75861-SH, NALCN shRNA Plasmid (m): sc-149810-SH, NALCN shRNA (h) Lentiviral Particles: sc-75861-V and NALCN shRNA (m) Lentiviral Particles: sc-149810-V.

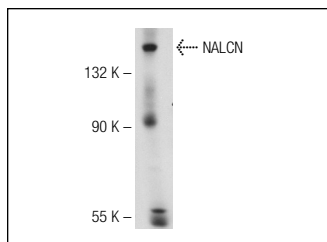
Molecular Weight of NALCN: 200 kDa.

Positive Controls: mouse brain extract: sc-2253.

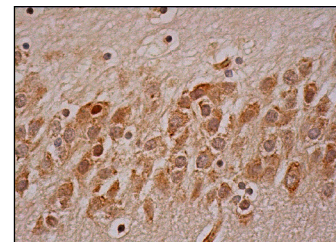
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



NALCN (N-20): sc-84520. Western blot analysis of NALCN expression in mouse brain tissue extract.



NALCN (N-20): sc-84520. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells and glial cells.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.