

NCX2 (N-17): sc-33528

BACKGROUND

Sodium/calcium exchanger proteins are integral membrane proteins primarily seen in cardiac cells. In cardiac myocytes, the concentration of Ca²⁺ alternates between low levels during relaxation and high levels during contraction. The Na⁺/Ca²⁺ exchanger 1 (NCX1) protein mediates Ca²⁺ extrusion from cardiac cells during relaxation. Four NCX1 isoforms (NCX1.1, NCX1.3, NCX1.7, and NCX1.10) result from alternate splicing. NCX1 mRNA is present at high levels in the heart, with lower levels present in the brain. NCX2 is most abundantly expressed in brain, in contrast the the broader distribution of NCX1, which is also expressed in heart, kidney, lung, smooth and skeletal muscle. The difference in expression for the transporter subtypes is believed to reflect differences in their functional roles. Regulation mechanisms for these exchanger proteins have not been fully characterized.

REFERENCES

1. Li, Z., et al. 1994. Cloning of the NCX2 isoform of the plasma membrane Na⁺/Ca²⁺ exchanger. *J. Biol. Chem.* 269: 17434-17439.
2. Kikuno, R., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 6: 197-205.
3. Li, L., et al. 2000. Calcineurin controls the transcription of Na⁺/Ca²⁺ exchanger isoforms in developing cerebellar neurons. *J. Biol. Chem.* 275: 20903-20910.
4. Fraysse, B., et al. 2001. Expression of the Na⁺/Ca²⁺ exchanger in skeletal muscle. *Am. J. Physiol., Cell Physiol.* 280: C146-C154.
5. Canitano, A., et al. 2002. Brain distribution of the Na⁺/Ca²⁺ exchanger-encoding genes NCX1, NCX2 and NCX3 and their related proteins in the central nervous system. *Ann. N.Y. Acad. Sci.* 976: 394-404.

CHROMOSOMAL LOCATION

Genetic locus: SLC8A2 (human) mapping to 19q13.32; Slc8a2 (mouse) mapping to 7 A2.

SOURCE

NCX2 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of NCX2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33528 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

NCX2 (N-17) is recommended for detection of NCX2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NCX2 (N-17) is also recommended for detection of NCX2 in additional species, including equine, canine, bovine and porcine.

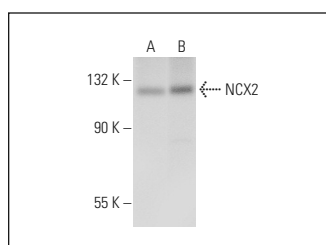
Suitable for use as control antibody for NCX2 siRNA (h): sc-44908, NCX2 siRNA (m): sc-44909, NCX2 shRNA Plasmid (h): sc-44908-SH, NCX2 shRNA Plasmid (m): sc-44909-SH, NCX2 shRNA (h) Lentiviral Particles: sc-44908-V and NCX2 shRNA (m) Lentiviral Particles: sc-44909-V.

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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NCX2 (N-17): sc-33528. Western blot analysis of NCX2 expression in mouse brain tissue extracts (A,B).

SELECT PRODUCT CITATIONS

1. Engelhardt, M., et al. 2013. Ankyrin-B structurally defines terminal microdomains of peripheral somatosensory axons. *Brain Struct. Funct.* 218: 1005-1016.

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Try **NCX2 (E-1): sc-515768**, our highly recommended monoclonal alternative to NCX2 (N-17).