

NCX (H-300): sc-32881

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 to 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

- Li, Z., et al. 1994. Cloning of the NCX2 isoform of the plasma membrane Na⁺/Ca²⁺ exchanger. *J. Biol. Chem.* 269: 17434-17439.
- 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.
- Li, L., et al. 2000. Calcineurin controls the transcription of Na⁺/Ca²⁺ exchanger isoforms in developing cerebellar neurons. *J. Biol. Chem.* 275: 20903-20910.

SOURCE

NCX (H-300) is a rabbit polyclonal antibody raised against amino acid 679-968 mapping at the C-terminus of NCX1 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.

STORAGE

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

APPLICATIONS

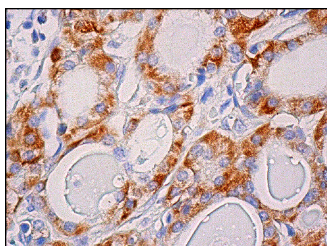
NCX (H-300) is recommended for detection of NCX1, NCX2 and NCX3 precursor and mature forms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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).

NCX (H-300) is also recommended for detection of NCX1, NCX2 and NCX3 precursor and mature forms in additional species, including equine, canine, bovine, porcine and avian.

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



NCX (H-300): sc-32881. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Beeri, R., et al. 2010. Gene delivery of sarcoplasmic reticulum calcium ATPase inhibits ventricular remodeling in ischemic mitral regurgitation. *Circ. Heart Fail.* 3: 627-634.
- Gao, M., et al. 2013. An altered expression of genes involved in the regulation of ion channels in atrial myocytes is correlated with the risk of atrial fibrillation in patients with heart failure. *Exp. Ther. Med.* 5: 1239-1243.

RESEARCH USE

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

PROTOCOLS

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

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Try **NCX2 (E-1): sc-515768**, our highly recommended monoclonal alternative to NCX (H-300).