SANTA CRUZ BIOTECHNOLOGY, INC.

NCX2 (E-1): sc-515768

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sodium/calcium exchanger proteins are integral membrane proteins primarily seen in cardiac cells. In cardiac myocytes, the concentration of Ca^{2+} alternates between low levels during relaxation and high levels during contraction. The Na^{+}/Ca^{2+} exchanger 1 (NCX1) protein mediates Ca^{2+} 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^{+}/Ca^{2+} 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^{+}/Ca^{2+} exchanger isoforms in developing cerebellar neurons. J. Biol. Chem. 275: 20903-20910.
4. Fraysse, B., et al. 2001. Expression of the Na^{+}/Ca^{2+} exchanger in skeletal muscle. Am. J. Physiol., Cell Physiol. 280: C146-C154.
5. Canitano, A., et al. 2002. Brain distribution of the Na^{+}/Ca^{2+} 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 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 41-64 within an extracellular domain of NCX2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NCX2 (E-1) is available conjugated to agarose (sc-515768 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515768 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515768 PE), fluorescein (sc-515768 FITC), Alexa Fluor® 488 (sc-515768 AF488), Alexa Fluor® 546 (sc-515768 AF546), Alexa Fluor® 594 (sc-515768 AF594) or Alexa Fluor® 647 (sc-515768 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515768 AF680) or Alexa Fluor® 790 (sc-515768 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NCX2 (E-1) is recommended for detection of NCX2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

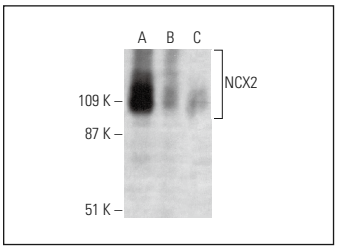
Molecular Weight of NCX2: 102 kDa.

Positive Controls: mouse brain extract: sc-2253, TT whole cell lysate: sc-364195 or human brain extract: sc-364375.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NCX2 (E-1): sc-515768. Western blot analysis of NCX2 expression in mouse brain (**A**) and human brain (**B**) tissue extracts and TT whole cell lysate (**C**).

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.

PROTOCOLS

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