

NCKX2 (F-2): sc-514412

BACKGROUND

NCKX2, also designated solute carrier family 24, member 2 (SLC24A2), belongs to a family of potassium-dependent sodium/calcium exchangers, all of which contain two large hydrophilic loops and two sets of multiple transmembrane-spanning segments. NCKX2 is expressed in neurons throughout the brain, with high expression found in cone photoreceptors in the retina as well as hippocampal pyramidal cells and the deep nuclei of the cerebellum. A critical component in the process of light adaptation, NCKX2 transports one calcium ion and one potassium ion in exchange for four sodium ions, thereby controlling calcium concentration in the eye during light and darkness. Additionally, NCKX2 regulates calcium levels in other cellular locations that experience rapid calcium fluxes, such as neuronal synapses. Inactivation of NCKX2 is believed to be an important regulatory mechanism in the control of sodium and calcium levels under different physiological conditions.

REFERENCES

1. Tsoi, M., et al. 1998. Molecular cloning of a novel potassium-dependent sodium-calcium exchanger from rat brain. *J. Biol. Chem.* 273: 4155-4162.
2. Li, X.F., et al. 2002. Molecular cloning of a fourth member of the potassium-dependent sodium-calcium exchanger gene family, NCKX4. *J. Biol. Chem.* 277: 48410-48417.
3. Cai, X., et al. 2002. A novel topology and redox regulation of the rat brain K⁺-dependent Na⁺/Ca²⁺ exchanger, NCKX2. *J. Biol. Chem.* 277: 48923-48930.
4. Kang, K.J., et al. 2005. Residues contributing to the Ca²⁺ and K⁺ binding pocket of the NCKX2 Na⁺/Ca²⁺-K⁺ exchanger. *J. Biol. Chem.* 280: 6823-6833.
5. Kang, K.J., et al. 2005. Substitution of a single residue, Asp575, renders the NCKX2 K⁺-dependent Na⁺/Ca²⁺ exchanger independent of K⁺. *J. Biol. Chem.* 280: 6834-6839.

CHROMOSOMAL LOCATION

Genetic locus: SLC24A2 (human) mapping to 9p22.1; Slc24a2 (mouse) mapping to 4 C4.

SOURCE

NCKX2 (F-2) is a mouse monoclonal antibody raised against amino acids 56-151 mapping within an N-terminal extracellular domain of NCKX2 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.

NCKX2 (F-2) is available conjugated to agarose (sc-514412 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514412 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514412 PE), fluorescein (sc-514412 FITC), Alexa Fluor[®] 488 (sc-514412 AF488), Alexa Fluor[®] 546 (sc-514412 AF546), Alexa Fluor[®] 594 (sc-514412 AF594) or Alexa Fluor[®] 647 (sc-514412 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514412 AF680) or Alexa Fluor[®] 790 (sc-514412 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NCKX2 (F-2) is recommended for detection of NCKX2 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 NCKX2 siRNA (h): sc-72258, NCKX2 siRNA (m): sc-72259, NCKX2 shRNA Plasmid (h): sc-72258-SH, NCKX2 shRNA Plasmid (m): sc-72259-SH, NCKX2 shRNA (h) Lentiviral Particles: sc-72258-V and NCKX2 shRNA (m) Lentiviral Particles: sc-72259-V.

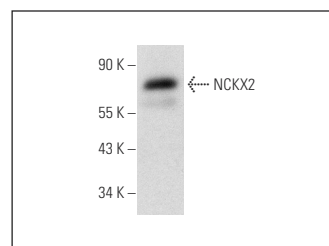
Molecular Weight of NCKX2: 75 kDa.

Positive Controls: H19-7/IGF-IR whole cell lysate or human cervix extract: sc-363756.

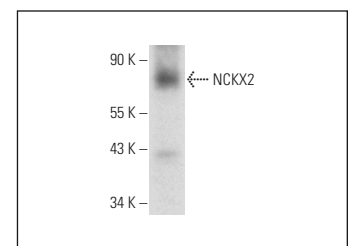
RECOMMENDED SUPPORT REAGENTS

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



NCKX2 (F-2): sc-514412. Western blot analysis of NCKX2 expression in human cerebral cortex tissue extract.



NCKX2 (F-2): sc-514412. Western blot analysis of NCKX2 expression in H19-7/IGF-IR whole cell lysate extract.

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.

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