

# NCKX2 (N-18): sc-51339

## 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

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4. Kang, K.J., et al. 2005. Residues contributing to the Ca<sup>2+</sup> and K<sup>+</sup> binding pocket of the NCKX2 Na<sup>+</sup>/Ca<sup>2+</sup>-K<sup>+</sup> exchanger. *J. Biol. Chem.* 280: 6823-6833.
5. Kang, K.J., et al. 2005. Substitution of a single residue, Asp 575, renders the NCKX2 K<sup>+</sup>-dependent Na<sup>+</sup>/Ca<sup>2+</sup> exchanger independent of K<sup>+</sup>. *J. Biol. Chem.* 280: 6834-6839.
6. Kinjo, T.G., et al. 2005. Site-directed disulfide mapping of residues contributing to the Ca<sup>2+</sup> and K<sup>+</sup> binding pocket of the NCKX2 Na<sup>+</sup>/Ca<sup>2+</sup>-K<sup>+</sup> exchanger. *Biochemistry* 44: 7787-7795.
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## CHROMOSOMAL LOCATION

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

## SOURCE

NCKX2 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of NCKX2 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-51339 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NCKX2 (N-18) is recommended for detection of NCKX2 precursor and mature retinal cone Na/K/Ca exchanger isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NCKX2 (N-18) is also recommended for detection of NCKX2 precursor and mature retinal cone Na/K/Ca exchanger isoforms 1 and 2 in additional species, including canine, bovine and porcine.

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.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **NCKX2 (F-2): sc-514412**, our highly recommended monoclonal alternative to NCKX2 (N-18).