

NCKX5 (S-14): sc-165089

BACKGROUND

Plasma membrane sodium/calcium exchangers are crucial for the maintenance of intracellular calcium homeostasis and the modulation of electrical conduction. Potassium-dependent sodium/calcium exchangers, such as NCKX5 (Na⁺/K⁺/Ca²⁺-exchange protein 5), presumably transport an intracellular calcium and a potassium ion in exchange for four extracellular sodium ions. NCKX5, also known as JSX, SHEP4 or SLC24A5, is a 500 amino acid multi-pass membrane protein belonging to the sodium/potassium/calcium exchanger family and the SLC24A subfamily. NCKX5 is expressed in skin, retinal epithelium and brain. Considered a cation exchanger, NCKX5 may be involved in skin pigmentation by participating in ion transport in melanosomes.

REFERENCES

1. Lamason, R.L., et al. 2005. SLC24A5, a putative cation exchanger, affects pigmentation in zebrafish and humans. *Science* 310: 1782-1786.
2. Chi, A., et al. 2006. Proteomic and bioinformatic characterization of the biogenesis and function of melanosomes. *J. Proteome Res.* 5: 3135-3144.
3. Lytton, J. 2007. Na⁺/Ca²⁺ exchangers: three mammalian gene families control Ca²⁺ transport. *Biochem. J.* 406: 365-382.
4. Soejima, M. and Koda, Y. 2007. Population differences of two coding SNPs in pigmentation-related genes SLC24A5 and SLC45A2. *Int. J. Legal Med.* 121: 36-39.
5. Giardina, E., et al. 2008. Haplotypes in SLC24A5 gene as ancestry informative markers in different populations. *Curr. Genomics* 9: 110-114.
6. Ginger, R.S., et al. 2008. SLC24A5 encodes a *trans*-Golgi network protein with potassium-dependent sodium-calcium exchange activity that regulates human epidermal melanogenesis. *J. Biol. Chem.* 283: 5486-5495.
7. Sims, L.M. and Ballantyne, J. 2008. The golden gene (SLC24A5) differentiates US sub-populations within the ethnically admixed Y-SNP haplogroups. *Leg. Med.* 10: 72-77.

CHROMOSOMAL LOCATION

Genetic locus: SLC24A5 (human) mapping to 15q21.1; Slc24a5 (mouse) mapping to 2 F1.

SOURCE

NCKX5 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of NCKX5 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-165089 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.

APPLICATIONS

NCKX5 (S-14) is recommended for detection of NCKX5 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); non cross-reactive with other NCKX family members.

NCKX5 (S-14) is also recommended for detection of NCKX5 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for NCKX5 siRNA (h): sc-90252, NCKX5 siRNA (m): sc-149856, NCKX5 shRNA Plasmid (h): sc-90252-SH, NCKX5 shRNA Plasmid (m): sc-149856-SH, NCKX5 shRNA (h) Lentiviral Particles: sc-90252-V and NCKX5 shRNA (m) Lentiviral Particles: sc-149856-V.

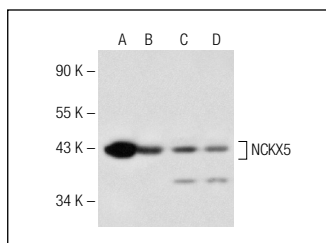
Molecular Weight of NCKX5: 43 kDa.

Positive Controls: C32 whole cell lysate: sc-2205, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

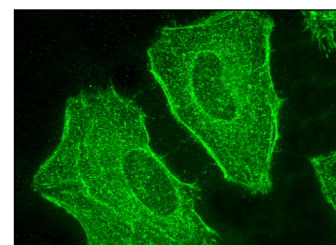
RECOMMENDED SECONDARY REAGENTS

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



NCKX5 (S-14): sc-165089. Western blot analysis of NCKX5 expression in C32 (A), NIH/3T3 (B), A-375 (C) and HeLa (D) whole cell lysates.



NCKX5 (S-14): sc-165089. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

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.