

NKCC2 (L-23): sc-133823

BACKGROUND

Na-K-Cl cotransporters (NKCC) are channel proteins that aid in the transcellular movement of chloride across both secretory and absorptive epithelia. NKCC1 is expressed in muscle cells, neurons and red blood cells. In the basolateral membrane of secretory epithelia, NKCC1 mediates active chloride secretion. The gene encoding human NKCC1 maps to chromosome 5q23.3. In mice, disruption of the NKCC1 gene leads to deafness and impaired balance. NKCC2 is specifically expressed in the kidney where it mediates active reabsorption of sodium chloride in the thick ascending limb of the loop of Henle. NKCC2 is sensitive to the clinically important diuretics furosemide and bumetanide. The gene encoding human NKCC2 maps to chromosome 15q21.1 and mutations in this gene lead to Bartter's syndrome, an inherited hypokalaemic alkalosis. NCCT is a thiazide-sensitive Na-Cl cotransporter that is primarily expressed in the distal convoluted tubule of the kidney where it accounts for a significant fraction of net renal sodium reabsorption. The gene for human NCCT map to chromosome 16q13. Mutations in the gene encoding NCCT cause Gitelman's syndrome, a subset of Bartter's syndrome.

CHROMOSOMAL LOCATION

Genetic locus: SLC12A1 (human) mapping to 15q21.1; Slc12a1 (mouse) mapping to 2 F1.

SOURCE

NKCC2 (L-23) is an affinity purified rabbit polyclonal antibody raised against an N-terminal region of NKCC2 of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

RESEARCH USE

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

APPLICATIONS

NKCC2 (L-23) is recommended for detection of NKCC2 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).

NKCC2 (L-23) is also recommended for detection of NKCC2 in additional species, including equine, bovine, porcine and canine.

Suitable for use as control antibody for NKCC2 siRNA (h): sc-42517, NKCC2 siRNA (m): sc-42518, NKCC2 shRNA Plasmid (h): sc-42517-SH, NKCC2 shRNA Plasmid (m): sc-42518-SH, NKCC2 shRNA (h) Lentiviral Particles: sc-42517-V and NKCC2 shRNA (m) Lentiviral Particles: sc-42518-V.

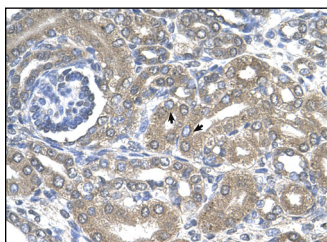
Molecular Weight of NKCC2: 121 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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



NKCC2 (L-23): sc-133823. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Zhu, J.X., et al. 2011. Cellular localization of NKCC2 and its possible role in the Cl⁻ absorption in the rat and human distal colonic epithelia. *Transl. Res.* 158: 146-154.
- Ji, T., et al. 2012. Cellular distribution of NKCC2 in the gastric mucosa and its response to short-term osmotic shock. *Cell Tissue Res.* 348: 155-165.

STORAGE

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

PROTOCOLS

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


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Try **NKCC2 (4H4): sc-293222**, our highly recommended monoclonal alternative to NKCC2 (L-23).