

SLC4A4 (C-14): sc-162214

BACKGROUND

SLC4A4 (solute carrier family 4, sodium bicarbonate cotransporter, member 4), also known as KNBC, NBC1, NBC2, pNBC, HNBC1, hhNMC or SLC4A5, is a 1,079 amino acid multi-pass membrane protein that belongs to the anion exchanger family. SLC4A4 is an electrogenic sodium/bicarbonate cotransporter that may participate in the regulation of bicarbonate influx/efflux at the basolateral membrane of cells. Inhibited by stilbene derivatives and controlled by cyclic AMP, SLC4A4 is a key player in regulating intracellular pH in several cell types. Defects in the gene encoding SLC4A4 are the cause of proximal renal tubular acidosis with ocular abnormalities (also known as renal tubular acidosis II) and is characterized by short stature, profound pRTA (proximal renal tubular acidosis), mental retardation, bilateral glaucoma, cataracts and bandkeratopathy. SLC4A4 exists as four alternatively spliced isoforms.

REFERENCES

1. Igarashi, T., et al. 1999. Mutations in SLC4A4 cause permanent isolated proximal renal tubular acidosis with ocular abnormalities. *Nat. Genet.* 23: 264-266.
2. Yamada, H., et al. 2003. Localization of NBC-1 variants in human kidney and renal cell carcinoma. *Biochem. Biophys. Res. Commun.* 310: 1213-1218.
3. Sun, X.C. and Bonanno, J.A. 2003. Identification and cloning of the Na⁺/HCO₃⁻ cotransporter (NBC) in human corneal endothelium. *Exp. Eye Res.* 77: 287-295.
4. Dinour, D., et al. 2004. A novel missense mutation in the sodium bicarbonate cotransporter (NBCe1/SLC4A4) causes proximal tubular acidosis and glaucoma through ion transport defects. *J. Biol. Chem.* 279: 52238-52246.
5. Pushkin, A., et al. 2004. Molecular mechanism of kNBC1-carbonic anhydrase II interaction in proximal tubule cells. *J. Physiol.* 559: 55-65.

CHROMOSOMAL LOCATION

Genetic locus: SLC4A4 (human) mapping to 4q13.3; Slc4a4 (mouse) mapping to 5 E1.

SOURCE

SLC4A4 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of SLC4A4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162214 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

SLC4A4 (C-14) is recommended for detection of SLC4A4 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 SLC4A family members.

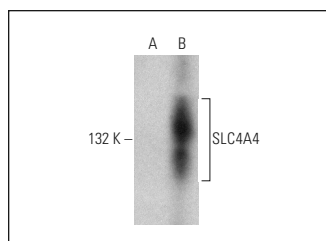
SLC4A4 (C-14) is also recommended for detection of SLC4A4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SLC4A4 siRNA (h): sc-89292, SLC4A4 siRNA (m): sc-153568, SLC4A4 shRNA Plasmid (h): sc-89292-SH, SLC4A4 shRNA Plasmid (m): sc-153568-SH, SLC4A4 shRNA (h) Lentiviral Particles: sc-89292-V and SLC4A4 shRNA (m) Lentiviral Particles: sc-153568-V.

Molecular Weight of SLC4A4: 130 kDa.

Positive Controls: mouse SLC4A4 transfected CHO whole cell lysates.

DATA



SLC4A4 (C-14): sc-162214. Western blot analysis of SLC4A4 expression in non-transfected CHO (A) and mouse SLC4A4 transfected CHO (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bernardino, R.L., et al. 2013. Effect of prediabetes on membrane bicarbonate transporters in testis and epididymis. *J. Membr. Biol.* 246: 877-883.

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.

MONOS
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Try **SLC4A4 (G-9): sc-515543** or **SLC4A4 (1G2): sc-293338**, our highly recommended monoclonal alternatives to SLC4A4 (C-14).