

NBC4 (E-14): sc-168713

BACKGROUND

NBC4 (electrogenic sodium bicarbonate cotransporter 4), also known as SLC4A5 (solute carrier family 4, sodium bicarbonate cotransporter, member 5), is a 1,137 amino acid multi-pass membrane protein that belongs to the anion exchanger family. NBC4 is an electrogenic sodium/bicarbonate cotransporter that may participate in the regulation of bicarbonate influx/efflux at the apical membrane of cells. NBC4 is highly expressed in liver, spleen and testis, and moderately expressed in choroid plexus, hippocampus, cerebellum and cerebellum, and in kidney cortex and medulla. Inhibited by 4,4'-diisothiocyanatostilbene-2,2'-disulfonic acid (DIDS, an inhibitor of several anion channels and transporters), NBC4 is a key player in regulating intracellular pH in several cell types. NBC4 exists as eight alternatively spliced isoforms and is encoded by a gene located on human chromosome 2p13.1.

REFERENCES

1. Sassani, P., et al. 2002. Functional characterization of NBC4: a new electrogenic sodium-bicarbonate cotransporter. *Am. J. Physiol., Cell Physiol.* 282: C408-C416.
2. Virkki, L.V., et al. 2002. Functional characterization of human NBC4 as an electrogenic Na⁺-HCO cotransporter (NBCe2). *Am. J. Physiol., Cell Physiol.* 282: C1278-C1289.
3. Xu, J., et al. 2003. Expression of the Na⁺-HCO₃⁻ cotransporter NBC4 in rat kidney and characterization of a novel NBC4 variant. *Am. J. Physiol. Renal Physiol.* 284: F41-F50.
4. Kristensen, J.M., et al. 2004. Expression of Na⁺/HCO₃⁻ co-transporter proteins (NBCs) in rat and human skeletal muscle. *Acta Physiol. Scand.* 182: 69-76.
5. Abuladze, N., et al. 2004. Expression and localization of rat NBC4c in liver and renal uroepithelium. *Am. J. Physiol., Cell Physiol.* 287: C781-C789.
6. Damkier, H.H., et al. 2007. Molecular expression of SLC4-derived Na⁺-dependent anion transporters in selected human tissues. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 293: R2136-R2146.

CHROMOSOMAL LOCATION

Genetic locus: SLC4A5 (human) mapping to 2p13.1; Slc4a5 (mouse) mapping to 6 C3.

SOURCE

NBC4 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of NBC4 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-168713 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NBC4 (E-14) is recommended for detection of NBC4 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).

NBC4 (E-14) is also recommended for detection of NBC4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NBC4 siRNA (h): sc-94491, NBC4 siRNA (m): sc-149845, NBC4 shRNA Plasmid (h): sc-94491-SH, NBC4 shRNA Plasmid (m): sc-149845-SH, NBC4 shRNA (h) Lentiviral Particles: sc-94491-V and NBC4 shRNA (m) Lentiviral Particles: sc-149845-V.

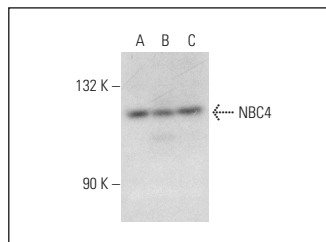
Molecular Weight of NBC4: 190 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, Raji whole cell lysate: sc-364236 or Daudi cell lysate: sc-2415.

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



NBC4 (E-14): sc-168713. Western blot analysis of NBC4 expression in SUP-T1 (A), Raji (B) and Daudi (C) whole cell lysates.

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.