

# SLC4A8 (V-14): sc-169346

## BACKGROUND

SLC4A8 (solute carrier family 4, sodium bicarbonate cotransporter, member 8), also known as NBC3, kNBC3 or NDCBE (Na<sup>+</sup>-driven chloride bicarbonate exchanger), is a member of the anion exchanger family and is predominantly expressed in brain and spinal column with moderate expression in thyroid, kidney and trachea. In the brain, SLC4A8 is found at high levels in the pyramidal cells of the hippocampus and the Purkinje cells of the cerebellum. Localizing to the membrane, SLC4A8 is an N-glycosylated, multi-pass membrane protein that plays an important role in intracellular pH regulation in neurons. More specifically, SLC4A8 functions as an electroneutral transporter and mediates the transport of bicarbonate and sodium ions across the membrane from the blood to the cell in exchange for cellular chloride. SLC4A8 is most closely related to NDCBE and SLC4A7. Due to alternative splicing events, seven isoforms exist for SLC4A8.

## REFERENCES

- Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 277-286.
- Amlal, H., et al. 1999. Characterization of Na<sup>+</sup>/HCO<sub>3</sub><sup>-</sup> cotransporter isoform NBC3. Am. J. Physiol. 276: F903-F913.
- Soleimani, M., et al. 2000. Physiologic and molecular aspects of the Na<sup>+</sup>/HCO<sub>3</sub><sup>-</sup> cotransporter in health and disease processes. Kidney Int. 57: 371-384.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605024. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Aalkjaer, C., et al. 2004. Sodium coupled bicarbonate transporters in the kidney, an update. Acta Physiol. Scand. 181: 505-512.
- Damkier, H.H., et al. 2007. Molecular expression of SLC4-derived Na<sup>+</sup>-dependent anion transporters in selected human tissues. Am. J. Physiol. Regul. Integr. Comp. Physiol. 293: R2136-R2146.
- Piermarini, P.M., et al. 2007. Evidence against a direct interaction between intracellular carbonic anhydrase II and pure C-terminal domains of SLC4 bicarbonate transporters. J. Biol. Chem. 282: 1409-1421.
- Chen, L.M., et al. 2008. Use of a new polyclonal antibody to study the distribution and glycosylation of the sodium-coupled bicarbonate transporter NDCBE in rodent brain. Neuroscience 151: 374-385.

## CHROMOSOMAL LOCATION

Genetic locus: SLC4A8 (human) mapping to 12q13.13; Slc4a8 (mouse) mapping to 15 F1.

## SOURCE

SLC4A8 (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of SLC4A8 of human origin.

## RESEARCH USE

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

## 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-169346 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SLC4A8 (V-14) is recommended for detection of SLC4A8 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.

SLC4A8 (V-14) is also recommended for detection of SLC4A8 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SLC4A8 siRNA (h): sc-95907, SLC4A8 siRNA (m): sc-153570, SLC4A8 shRNA Plasmid (h): sc-95907-SH, SLC4A8 shRNA Plasmid (m): sc-153570-SH, SLC4A8 shRNA (h) Lentiviral Particles: sc-95907-V and SLC4A8 shRNA (m) Lentiviral Particles: sc-153570-V.

Molecular Weight of SLC4A8: 123 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

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

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