

# SLC4A8 (LX-2): sc-100672

## 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 NCBE and SLC4A7. Due to alternative splicing events, seven isoforms exist for SLC4A8.

## REFERENCES

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- 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. and Burnham, C.E. 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 NCBE in rodent brain. Neuroscience 151: 374-385.
- Chen, L.M., et al. 2008. Expression and localization of Na-driven Cl-HCO<sub>3</sub><sup>-</sup> exchanger (SLC4A8) in rodent CNS. Neuroscience 153: 162-174.

## 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) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: SLC4A8 (human) mapping to 12q13.13.

## SOURCE

SLC4A8 (LX-2) is a mouse monoclonal antibody raised against recombinant SLC4A8 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SLC4A8 (LX-2) is recommended for detection of SLC4A8 of human origin by 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).

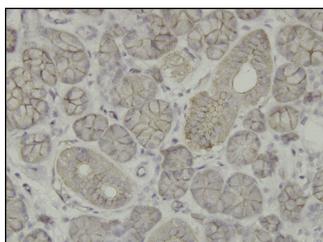
Suitable for use as control antibody for SLC4A8 siRNA (h): sc-95907, SLC4A8 shRNA Plasmid (h): sc-95907-SH and SLC4A8 shRNA (h) Lentiviral Particles: sc-95907-V.

Molecular Weight of SLC4A8: 123 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



SLC4A8 (LX-2): sc-100672. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human salivary gland tissue showing membrane localization.

## RESEARCH USE

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