SANTA CRUZ BIOTECHNOLOGY, INC.

NHE-3 (V-16): sc-31382

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Na^+/H^+ exchangers-1-8 (also designated Na^+/H^+ antiporters or NHE-1-8) are integral membrane proteins that are expressed in most mammalian tissues, where they regulate intracellular pH and cell volume. NHEs mediate the transport of hydrogen (H^+) ions out of cells in exchange for extracellular sodium (Na^+) ions. While NHE-1 is ubiquitously expressed, the NHE isoforms 2-8 have distinct tissue- and cell type-dependent expression and inhibitory characteristics. NHE-3 localizes to the apical membrane of renal proximal tubules where it is responsible for most of the sodium transport and fluid reabsorption. NHE-3 translocates to internal pools where it mediates natriuresis when blood pressure increases abruptly. NHE-3 is also expressed in the stomach and functions to protect the mucosa by secreting protons that diffuse into the mucous cells.

REFERENCES

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2. Harris, S.P., Strong, T.V., Wys, N., Richards, N.W., Pouyssɛgur, J., Ernst, S.A. and Dawson, D.C. 1997. Epithelial localization of a reptilian Na^+/H^+ exchanger homologous to NHE-1. Am. J. Physiol. 272: 1594-1606.
3. Kulaksiz, H., Bektas, H. and Cetin, Y. 2001. Expression and cell-specific and membrane-specific localization of NHE-3 in the human and guinea pig upper gastrointestinal tract. Cell Tissue Res. 303: 337-343.
4. LaPointe, M.S., Sodhi, C., Sahai, A. and Batlle, D. 2002. Na^+/H^+ exchange activity and NHE-3 expression in renal tubules from the spontaneously hypertensive rat. Kidney Int. 62: 157-165.
5. Sangan, P., Rajendran, V.M., Geibel, J.P. and Binder, H.J. 2002. Cloning and expression of a chloride-dependent Na^+/H^+ exchanger. J. Biol. Chem. 277: 9668-9675.
6. Goyal, S., Vanden Heuvel, G. and Aronson, P.S. 2003. Renal expression of novel Na^+/H^+ exchanger isoform NHE-8. Am. J. Physiol. Renal Physiol. 284: 467-473.
7. Goyal, S., Mentone, S. and Aronson, P.S. 2005. Immunolocalization of NHE-8 in rat kidney. Am. J. Physiol. Renal Physiol. 288: 530-538.

CHROMOSOMAL LOCATION

Genetic locus: SLC9A3 (human) mapping to 5p15.33; Slc9a3 (mouse) mapping to 13 C1.

SOURCE

NHE-3 (V-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of NHE-3 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-31382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

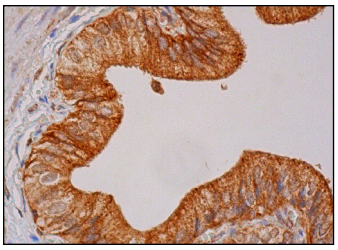
NHE-3 (V-16) is recommended for detection of NHE-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 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 NHE-3 siRNA (h): sc-36059, NHE-3 siRNA (m): sc-36060, NHE-3 shRNA Plasmid (h): sc-36059-SH, NHE-3 shRNA Plasmid (m): sc-36060-SH, NHE-3 shRNA (h) Lentiviral Particles: sc-36059-V and NHE-3 shRNA (m) Lentiviral Particles: sc-36060-V.

Molecular Weight of glycosylated NHE-3 isoforms: 93/80-100 kDa.

Positive Controls: rat kidney extract: sc-2394.

DATA



NHE-3 (V-16): sc-31382. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells.

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.