

NHE-8 (7A11): sc-53902

BACKGROUND

Na⁺/H⁺ exchangers 1-8, also designated Na⁺/H⁺ antiporters or NHE-1-8, are integral membrane proteins 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, NHE isoforms 2-8 have distinct tissue and cell type dependent expression and inhibitory characteristics. NHE-8 is a 575 amino acid protein that localizes apically in intestinal epithelial cells. Expression of NHE-8 is higher in young mammals than adults. NHE-8 gene and protein expression are highly regulated during ontogeny; this protein may play an important role in intestinal Na⁺ absorption during early mammalian life.

REFERENCES

1. Orłowski, J., et al. 1992. Molecular cloning of putative members of the Na/H exchanger gene family. cDNA cloning, deduced amino acid sequence and mRNA tissue expression of the rat Na/H exchanger NHE-1 and two structurally related proteins. *J. Biol. Chem.* 267: 9331-9339.
2. Harris, S.P., et al. 1997. Epithelial localization of a reptilian Na⁺/H⁺ exchanger homologous to NHE-1. *Am. J. Physiol.* 272: 1594-1606.
3. Sangan, P., et al. 2002. Cloning and expression of a chloride-dependent Na⁺/H⁺ exchanger. *J. Biol. Chem.* 277: 9668-9675.
4. Goyal, S., et al. 2003. Renal expression of novel Na⁺/H⁺ exchanger isoform NHE-8. *Am. J. Physiol. Renal Physiol.* 284: 467-473.
5. Goyal, S., et al. 2005. Immunolocalization of NHE-8 in rat kidney. *Am. J. Physiol. Renal Physiol.* 288: 530-538.
6. Xu, H., et al. 2005. Subcloning, localization and expression of the rat intestinal sodium-hydrogen exchanger isoform 8. *Am. J. Physiol. Gastrointest. Liver Physiol.* 289: 36-41.

CHROMOSOMAL LOCATION

Genetic locus: SLC9A8 (human) mapping to 20q13.13; Slc9a8 (mouse) mapping to 2 H3.

SOURCE

NHE-8 (7A11) is a mouse monoclonal antibody raised against an MBP fusion protein containing the C-terminal 89 amino acids of NHE-8 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NHE-8 (7A11) is available conjugated to agarose (sc-53902 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53902 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53902 PE), fluorescein (sc-53902 FITC), Alexa Fluor® 488 (sc-53902 AF488), Alexa Fluor® 546 (sc-53902 AF546), Alexa Fluor® 594 (sc-53902 AF594) or Alexa Fluor® 647 (sc-53902 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53902 AF680) or Alexa Fluor® 790 (sc-53902 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

NHE-8 (7A11) is recommended for detection of NHE-8 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for NHE-8 siRNA (h): sc-75912, NHE-8 siRNA (m): sc-149957, NHE-8 shRNA Plasmid (h): sc-75912-SH, NHE-8 shRNA Plasmid (m): sc-149957-SH, NHE-8 shRNA (h) Lentiviral Particles: sc-75912-V and NHE-8 shRNA (m) Lentiviral Particles: sc-149957-V.

Molecular Weight of non-glycosylated NHE-8: 55 kDa.

Molecular Weight of glycosylated NHE-8: 85 kDa.

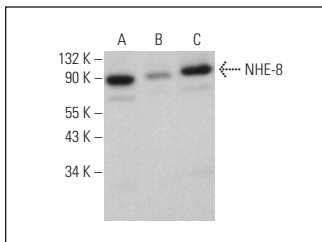
Positive Controls: A-431 whole cell lysate: sc-2201, Sol8 cell lysate: sc-2249 or c4 whole cell lysate: sc-364186.

RECOMMENDED SUPPORT REAGENTS

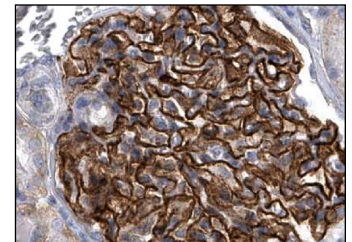
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NHE-8 (7A11): sc-53902. Western blot analysis of NHE-8 expression in A-431 (A), Sol8 (B) and c4 (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



NHE-8 (7A11): sc-53902. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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