

# NHERF-2 (H-16): sc-21116

## BACKGROUND

The Na<sup>+</sup>/H<sup>+</sup> exchange protein (NHE3) functions in transepithelial Na<sup>+</sup> absorption and is primarily expressed in the intestinal and renal brush border membrane. NHE3 regulatory factor 1 (NHERF-1) interacts with NHE3 through two PDZ (for PSD-95, Discs-large and ZO-1 homology) domains, which are protein-protein interaction modules that associate with specific carboxy-terminal motifs on target proteins. Also known as EBP50, NHERF-1 facilitates cAMP inhibition of NHE3 to decrease Na<sup>+</sup> adsorption. NHERF-1 functions as a scaffold for an essential multiprotein complex of Ezrin and NHE3 for cAMP-mediated phosphorylation and consequent inhibition of NHE3. The amino-terminal PDZ domain regulates the dimerization of NHERF-1 *in vivo*. G protein-coupled receptor kinase 6A phosphorylates NHERF-1 at Ser 289 via a PDZ domain-mediated interaction. The gene encoding human NHERF-1 maps to chromosome 17. NHERF-2, also known as E3KARP, which is ubiquitously expressed, also functions in NHE2 regulation.

## REFERENCES

1. Aronson, P.S., et al. 1986. Molecular-properties and physiological roles of the renal Na<sup>+</sup>-H<sup>+</sup> exchanger. *Curr. Top. Mem. Trans.* 26: 57-75.
2. Sheng, M. 1996. PDZs and receptor/channel clustering: rounding up the latest suspects. *Neuron* 17: 575-578.
3. Yun, C.H., et al. 1997. cAMP-mediated inhibition of the epithelial brush border Na<sup>+</sup>/H<sup>+</sup> exchanger, NHE3, requires an associated regulatory protein. *Proc. Natl. Acad. Sci. USA* 94: 3010-3015.
4. Poulat, F., et al. 1997. The human testis determining factor SRY bind a nuclear factor containing PDZ protein interaction domains. *J. Biol. Chem.* 272: 7167-7172.
5. Imai, K., et al. 1998. Genomic structure and sequence of a human homologue (NTHL1/NTH1) of *Escherichia coli* endonuclease III with those of the adjacent parts of TSC2 and SLC9A3R2 genes. *Gene* 222: 287-295.

## CHROMOSOMAL LOCATION

Genetic locus: SLC9A3R2 (human) mapping to 16p13.3; Slc9a3r2 (mouse) mapping to 17 A3.3.

## SOURCE

NHERF-2 (H-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NHERF-2 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-21116 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

NHERF-2 (H-16) is recommended for detection of NHERF-2 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 NHERF-2 siRNA (h): sc-42522, NHERF-2 siRNA (m): sc-42523, NHERF-2 shRNA Plasmid (h): sc-42522-SH, NHERF-2 shRNA Plasmid (m): sc-42523-SH, NHERF-2 shRNA (h) Lentiviral Particles: sc-42522-V and NHERF-2 shRNA (m) Lentiviral Particles: sc-42523-V.

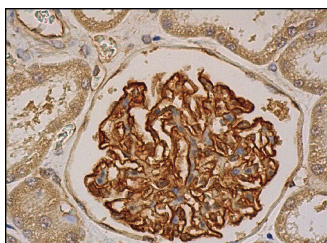
Molecular Weight of NHERF-2: 34 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

## 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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



NHERF-2 (H-16): sc-21116. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in glomeruli and cytoplasmic staining of cells in tubules.

## RESEARCH USE

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

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Try **NHERF-2 (C-2): sc-365388**, our highly recommended monoclonal alternative to NHERF-2 (H-16).