

## NHERF-2 (H-90): sc-33615

### 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. NHERF-2, also known as E3KARP, which is ubiquitously expressed, also functions in NHE2 regulation.

### REFERENCES

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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.
6. Hall, R.A., et al. 1999. G protein-coupled receptor kinase 6A phosphorylates the Na<sup>+</sup>/H<sup>+</sup> exchanger regulatory factor via a PDZ domain-mediated interaction. *J. Biol. Chem.* 274: 24328-24334.
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### CHROMOSOMAL LOCATION

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

### SOURCE

NHERF-2 (H-90) is a rabbit polyclonal antibody raised against amino acids 231-320 mapping near the C-terminus of NHERF-2 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.

### APPLICATIONS

NHERF-2 (H-90) is recommended for detection of NHERF-2 isoforms 1 and 2 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).

NHERF-2 (H-90) is also recommended for detection of NHERF-2 isoforms 1 and 2 in additional species, including canine, bovine and porcine.

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: RAW 264.7 whole cell lysate: sc-2211 or 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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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.

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Try **NHERF-2 (C-2): sc-365388**, our highly recommended monoclonal alternative to NHERF-2 (H-90).