

NHERF-1 (h): 293 Lysate: sc-110574

BACKGROUND

The Na⁺/H⁺ exchange protein (NHE-3) functions in transepithelial Na⁺ absorption and is primarily expressed in the intestinal and renal brush border membrane. NHE-3 regulatory factor 1 (NHERF-1) interacts with NHE-3 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 NHE-3 to decrease Na⁺ adsorption. NHERF-1 functions as a scaffold for an essential multiprotein complex of Ezrin and NHE-3 for cAMP-mediated phosphorylation and consequent inhibition of NHE-3. 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, is an ubiquitously expressed protein which also functions in NHE-2 regulation.

REFERENCES

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6. Hall, R.A., et al. 1999. G protein-coupled receptor kinase 6A phosphorylates the Na⁺/H⁺ exchanger regulatory factor via a PDZ domain-mediated interaction. *J. Biol. Chem.* 274: 24328-24334.
7. Weinman, E.J., et al. 2000. NHERF associations with sodium-hydrogen exchanger isoform 3 (NHE-3) and Ezrin are essential for cAMP-mediated phosphorylation and inhibition of NHE-3. *Biochemistry* 39: 6123-6129.
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CHROMOSOMAL LOCATION

Genetic locus: NHERF (human) mapping to 17q25.1.

PRODUCT

NHERF-1 (h): 293 Lysate represents a lysate of human NHERF-1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NHERF-1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive NHERF-1 antibodies.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

Either NHERF-1 (EBP-10): sc-51684 or NHERF-1 (6D364): sc-71698 is recommended as a positive control antibody for Western Blot analysis of enhanced human NHERF-1 expression in NHERF-1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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.

DATA

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.