

NHERF-2 (C-2): sc-365388

BACKGROUND

The Na⁺/H⁺ exchange protein (NHE3) functions in transepithelial Na⁺ 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⁺ 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.

CHROMOSOMAL LOCATION

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

SOURCE

NHERF-2 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 287-311 near the C-terminus of NHERF-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365388 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

NHERF-2 (C-2) is recommended for detection of NHERF-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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.

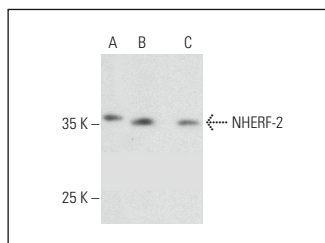
Molecular Weight of NHERF-2: 34 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, NRK whole cell lysate: sc-364197 or NIH/3T3 whole cell lysate: sc-2210.

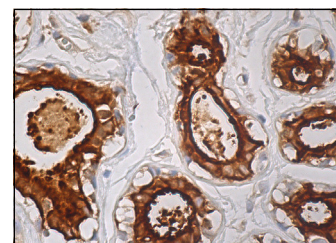
RECOMMENDED SUPPORT REAGENTS

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



NHERF-2 (C-2): sc-365388. Western blot analysis of NHERF-2 expression in NIH/3T3 (A), c4 (B) and NRK (C) whole cell lysates.



NHERF-2 (C-2): sc-365388. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Boratko, A., et al. 2012. Cell cycle dependent association of EBP50 with protein phosphatase 2A in endothelial cells. *PLoS ONE* 7: e35595.
2. Boratko, A. and Csontos, C. 2013. NHERF-2 is crucial in ERM phosphorylation in pulmonary endothelial cells. *Cell Commun. Signal.* 11: 99.
3. Gao, F., et al. 2018. Autophagy regulates testosterone synthesis by facilitating cholesterol uptake in Leydig cells. *J. Cell Biol.* 217: 2103-2119.
4. Reineke, L.C., et al. 2018. Chronic starvation induces noncanonical pro-death stress granules. *J. Cell Sci.* 131: jcs220244.
5. Yanda, M.K., et al. 2020. A new role for heat shock factor 27 in the pathophysiology of *Clostridium difficile* toxin B. *Am. J. Physiol. Gastrointest. Liver Physiol.* 18: G120-G129.
6. Lulić, L., et al. 2023. HPV16 impacts NHERF-2 expression in oropharyngeal cancers. *Pathogens* 12: 1013.

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 for detailed protocols and support products.