

NHEDC2 (K-25): sc-133820

BACKGROUND

Na⁺/H⁺ exchangers (NHEs) catalyze the transport of Na⁺ in exchange for H⁺ across membranes in organisms and are required for numerous physiological processes. NHEDC2 (Na⁺/H⁺ exchanger-like domain-containing protein 2), also known as NHA2, is a 537 amino acid mitochondrial protein. NHEDC2 is involved in organelle volume homeostasis by catalyzing the exchange of protons for Na⁺ and Li⁺ across the inner mitochondrial membrane. Found in red blood cells, NHEDC2 is required for bone resorption activity and osteoclast differentiation. As a multi-pass membrane protein, NHEDC2 is expressed as two isoforms produced by alternative splicing events.

REFERENCES

1. Bianchini, L. and Pousségur, J. 1994. Molecular structure and regulation of vertebrate Na⁺/H⁺ exchangers. *J. Exp. Biol.* 196: 337-345.
2. Noël, J. and Pousségur, J. 1995. Hormonal regulation, pharmacology, and membrane sorting of vertebrate Na⁺/H⁺ exchanger isoforms. *Am. J. Physiol.* 268 (2 Pt. 1): C283-C296.
3. Yun, C.H., Tse, C.M., Nath, S.K., Levine, S.A., Brant, S.R. and Donowitz, M. 1995. Mammalian Na⁺/H⁺ exchanger gene family: structure and function studies. *Am. J. Physiol.* 269 (1 Pt. 1): G1-11.
4. Ritter, M., Fuerst, J., Wöll, E., Chwatal, S., Gschwentner, M., Lang, F., Deetjen, P. and Paulmichl, M. 2001. Na⁺/H⁺exchangers: linking osmotic dysequilibrium to modified cell function. *Cell. Physiol. Biochem.* 11: 1-18.
5. Xiang, M., Feng, M., Muend, S. and Rao, R. 2007. A human Na⁺/H⁺ antiporter sharing evolutionary origins with bacterial NhaA may be a candidate gene for essential hypertension. *Proc. Natl. Acad. Sci. USA* 104: 18677-18681.
6. Battaglini, R.A., Pham, L., Morse, L.R., Vokes, M., Sharma, A., Odgren, P.R., Yang, M., Sasaki, H. and Stashenko, P. 2008. NHA-oc/NHA2: a mitochondrial cation-proton antiporter selectively expressed in osteoclasts. *Bone* 42: 180-192.
7. Fuster, D.G., Zhang, J., Shi, M., Bobulescu, I.A., Andersson, S. and Moe, O.W. 2008. Characterization of the sodium/hydrogen exchanger NHA2. *J. Am. Soc. Nephrol.* 19: 1547-1556.
8. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611789. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: NHEDC2 (human) mapping to 4q24; Nhedc2 (mouse) mapping to 3 G3.

SOURCE

NHEDC2 (K-25) is an affinity purified rabbit polyclonal antibody raised against synthetic NHEDC2 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

NHEDC2 (K-25) is recommended for detection of NHEDC2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

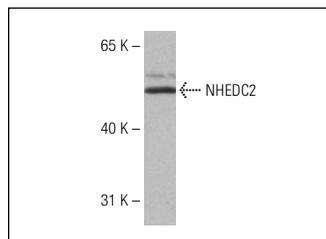
Suitable for use as control antibody for NHEDC2 siRNA (h): sc-88995, NHEDC2 siRNA (m): sc-149960, NHEDC2 shRNA Plasmid (h): sc-88995-SH, NHEDC2 shRNA Plasmid (m): sc-149960-SH, NHEDC2 shRNA (h) Lentiviral Particles: sc-88995-V and NHEDC2 shRNA (m) Lentiviral Particles: sc-149960-V.

Molecular Weight of NHEDC2: 57 kDa.

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.

DATA



NHEDC2 (K-25): sc-133820. Western blot analysis of NHEDC2 expression in NTERA-2 cl.D1 whole cell lysate.

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.

PROTOCOLS

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