SANTA CRUZ BIOTECHNOLOGY, INC.

βENaC (H-190): sc-21013

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The epithelial sodium channel (ENaC) is a member of the ENaC/DEG superfamily that is located on the apical surface of cells. ENaC mediates sodium reabsorption in kidney, distal colon, lung, ducts of exocrine glands, and other organs. ENaC is formed by heteromultimerization of four homologous subunits, α, β, γ and δ. The most frequently formed heterotetramer consists of 2α, 1β, and 1γ subunit, but the α subunit can be replaced by a δ subunit. The αENaC gene maps to human chromosome 12p13, and expresses a glycosylated protein. Both the β and γENaC genes map to human chromosome 16p12.2, and the γENaC transcript is detected as a glycosylated protein. The carboxy-terminus of all ENaC subunits contains PY motifs, which interact with the ubiquitin protein ligase, Nedd4, to regulate intracellular sodium concentrations. Gain-of-function mutations involving the PY motif cause Liddle's syndrome, an autosomal dominant form of hypertension, resulting from excessive renal sodium absorption. Conversely, ENaC loss-of-function mutations result in pseudohypoaldosteronism type I, a disorder characterized by salt wasting and hypotension.

CHROMOSOMAL LOCATION

Genetic locus: SCNN1B (human) mapping to 16p12.2; Scnn1b (mouse) mapping to 7 F2.

SOURCE

βENaC (H-190) is a rabbit polyclonal antibody raised against amino acids 271-460 mapping within an internal region of βENaC 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.

APPLICATIONS

βENaC (H-190) is recommended for detection of βENaC 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).

βENaC (H-190) is also recommended for detection of βENaC in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for βENaC siRNA (h): sc-42417, βENaC siRNA (m): sc-42418, βENaC shRNA Plasmid (h): sc-42417-SH, βENaC shRNA Plasmid (m): sc-42418-SH, βENaC shRNA (h) Lentiviral Particles: sc-42417-V and βENaC shRNA (m) Lentiviral Particles: sc-42418-V.

Molecular Weight (predicted) of βENaC: 73 kDa.

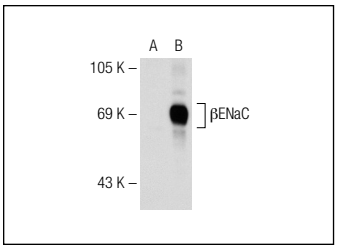
Molecular Weight (observed) of βENaC: 99 kDa.

Positive Controls: βENaC (h3): 293T Lysate: sc-177183 or KNRK whole cell lysate: sc-2214.

STORAGE

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

DATA



βENaC (H-190): sc-21013. Western blot analysis of βENaC expression in non-transfected: sc-117752 (**A**) and human βENaC transfected: sc-177183 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lim, H.Y., et al. 2008. Silencing of the mineralocorticoid receptor by ribonucleic acid interference in transgenic rats disrupts endocrine homeostasis. Mol. Endocrinol. 22: 1304-1311.
2. Montaño, J.A., et al. 2009. The expression of ENa+C and ASIC2 proteins in Pacinian corpuscles is differently regulated by TrkB and its ligands BDNF and NT-4. Neurosci. Lett. 463: 114-118.
3. Kim, S., et al. 2010. Changes in the sodium and potassium transporters in the course of chronic renal failure. Nephron Physiol. 115: 31-41.
4. Perlewitz, A., et al. 2010. Aldosterone and vasopressin affect α- and γ-ENaC mRNA translation. Nucleic Acids Res. 38: 5746-5760.
5. Laube, M., et al. 2011. Modulation of sodium transport in alveolar epithelial cells by estradiol and progesterone. Pediatr. Res. 69: 200-205.
6. Jung, J.Y., et al. 2011. Effects of potassium on expression of renal sodium transporters in salt-sensitive hypertensive rats induced by uninephrectomy. Am. J. Physiol. Renal Physiol. 300: F1422-F1430.

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.