

βENaC (C-20): sc-22242

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 2 α , 1 β , and 1 γ subunit, but the α subunit can be replaced by a δ subunit. The α ENaC gene maps to human chromosome 12p13, and expresses a glycosylated protein. Both the β and γ ENaC genes map to human chromosome 16p12.2, and the γ ENaC 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 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-22242 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

βENaC (C-20) is recommended for detection of βENaC of human and, to a lesser extent, mouse and rat 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).

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.

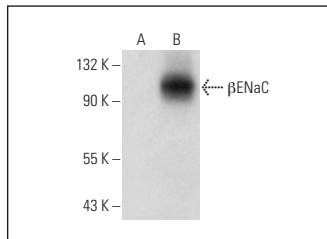
Molecular Weight (observed) of βENaC: 99 kDa.

Positive Controls: βENaC (h3): 293T Lysate: sc-177183.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



βENaC (C-20): sc-22242. 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

- Albert, A.P., et al. 2008. AICAR decreases the activity of two distinct amiloride-sensitive Na⁺-permeable channels in H441 human lung epithelial cell monolayers. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 295: L837-L848.
- Mace, O.J., et al. 2008. AICAR activates AMPK and alters PIP2 association with the epithelial sodium channel ENaC to inhibit Na⁺ transport in H441 lung epithelial cells. *J. Physiol.* 586: 4541-4557.
- Hara, S., et al. 2010. The effect of topical amiloride eye drops on tear quantity in rabbits. *Mol. Vis.* 16: 2279-2285.

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 or our catalog for detailed protocols and support products.



Try **βENaC (D-3): sc-25354** or **βENaC (E-10): sc-48428**, our highly recommended monoclonal alternatives to βENaC (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **βENaC (D-3): sc-25354**.