SANTA CRUZ BIOTECHNOLOGY, INC.

# αENaC (H-95): sc-21012

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 two α, one β, and one γ subunit, but the α subunit can be replaced by a δ subunit. The αENaC gene maps to human chromosome 12p13.31. Both the β and γENaC genes map to human chromosome 16p12, 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: SCNN1A (human) mapping to 12p13.31; Scnn1a (mouse) mapping to 6 F3.

## SOURCE

αENaC (H-95) is a rabbit polyclonal antibody raised against amino acids 131-225 mapping near the N-terminus of αENaC 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

αENaC (H-95) is recommended for detection of αENaC 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).

Suitable for use as control antibody for αENaC siRNA (h): sc-42404, αENaC siRNA (m): sc-42405, αENaC shRNA Plasmid (h): sc-42404-SH, αENaC shRNA Plasmid (m): sc-42405-SH, αENaC shRNA (h) Lentiviral Particles: sc-42404-V and αENaC shRNA (m) Lentiviral Particles: sc-42405-V.

Molecular Weight (predicted) of αENaC isoforms 1/2/3: 76/82/28 kDa.

Molecular Weight (predicted) of αENaC isoforms 4/5: 74/78 kDa.

Molecular Weight (observed) of αENaC: 60/80 kDa.

Positive Controls: Daudi cell lysate: sc-2415.

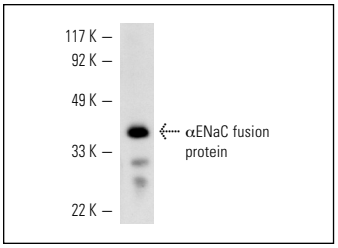
## STORAGE

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

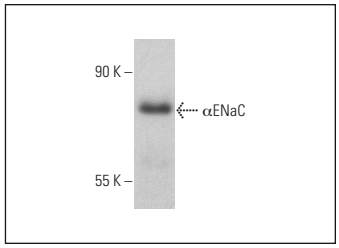
## RESEARCH USE

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

## DATA




αENaC (H-95): sc-21012. Western blot analysis of human recombinant αENaC fusion protein.




αENaC (H-95): sc-21012. Western blot analysis of αENaC expression in Daudi whole cell lysate.

## SELECT PRODUCT CITATIONS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4. Maouche, K., et al. 2009. α7 nicotinic acetylcholine receptor regulates airway epithelium differentiation by controlling basal cell proliferation. Am. J. Pathol. 175: 1868-1882.
5. Bangel-Ruland, N., et al. 2010. Characterization of the epithelial sodium channel δ-subunit in human nasal epithelium. Am. J. Respir. Cell Mol. Biol. 42: 498-505.
6. Edelheit, O., et al. 2011. Identification of the roles of conserved charged residues in the extracellular domain of an epithelial sodium channel (ENaC) subunit by alanine mutagenesis. Am. J. Physiol., Renal Physiol. 300: F887-F897.
7. Brown, M.B., et al. 2011. Low abundance of sweat duct $Cl^-$ channel CFTR in both healthy and cystic fibrosis athletes with exceptionally salty sweat during exercise. Am. J. Physiol. Regul. Integr. Comp. Physiol. 300: R605-R615.
8. Cheema, M.U., et al. 2013. Aldosterone and angiotensin II induce protein aggregation in renal proximal tubules. Physiol. Rep. 1: e00064.
9. Jiang, L., et al. 2014. α-ENaC, a therapeutic target of dexamethasone on hydrogen sulfide induced acute pulmonary edema. Environ. Toxicol. Pharmacol. 38: 616-624.


## PROTOCOLS

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