SANTA CRUZ BIOTECHNOLOGY, INC.

Na^+/K^+-ATPase α (H-300): sc-28800

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The ubiquitously expressed sodium/potassium-ATPase (Na^+/K^+-ATPase) exists as a oligomeric plasma membrane complex that couples the hydrolysis of one molecule of ATP to the importation of three Na^+ ions and two K^+ ions against their respective electrochemical gradients. As a member of the P-type family of ion motives, Na^+/K^+-ATPase plays a critical role in maintaining cellular volume, resting membrane potential and Na^+-coupled solute transport. Multiple isoforms of three subunits, α, β and γ, comprise the Na^+/K^+-ATPase oligomer. The α subunit contains the binding sites for ATP and the cations; the glycosylated β subunit ensures correct folding and membrane insertion of the α subunits. The small γ subunit co-localizes with the α subunit in nephron segments, where it increases the affinity of Na^+/K^+-ATPase for ATP. The β subunit, but not the γ subunit, is essential for normal activity of Na^+/K^+-ATPase.

SOURCE

Na^+/K^+-ATPase α (H-300) is a rabbit polyclonal antibody raised against amino acids 551-850 mapping within an internal region of Na^+/K^+-ATPase α1 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

Na^+/K^+-ATPase α (H-300) is recommended for detection of Na^+/K^+-ATPase α1, 2 and 3 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), 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).

Na^+/K^+-ATPase α (H-300) is also recommended for detection of Na^+/K^+-ATPase α1, 2 and 3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Na^+/K^+-ATPase α siRNA (h): sc-43956, Na^+/K^+-ATPase α siRNA (m): sc-45886, Na^+/K^+-ATPase α shRNA Plasmid (h): sc-43956-SH, Na^+/K^+-ATPase α shRNA Plasmid (m): sc-45886-SH, Na^+/K^+-ATPase α shRNA (h) Lentiviral Particles: sc-43956-V and Na^+/K^+-ATPase α shRNA (m) Lentiviral Particles: sc-45886-V.

Molecular Weight of Na^+/K^+-ATPase α isoforms: 100-113 kDa.

Positive Controls: Na^+/K^+-ATPase α1 (h): 293T Lysate: sc-116148, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

RESEARCH USE

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

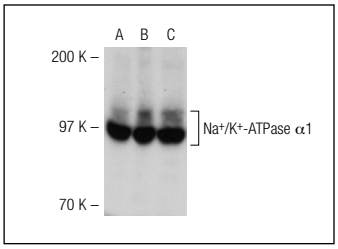
PROTOCOLS

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

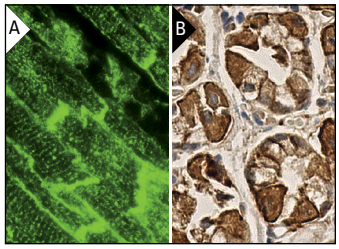
STORAGE

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

DATA



Na^+/K^+-ATPase α (H-300): sc-28800. Western blot analy-sis of Na^+/K^+-ATPase α1 expression in non-transfected 293T: sc-117752 (A), human Na^+/K^+-ATPase α1 trans-fected 293T: sc-116148 (**B**) and HeLa (**C**) whole cell lysates.



Na^+/K^+-ATPase α (H-300): sc-28800. Immunofluorescence staining of normal mouse heart frozen section showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Wei, S., et al. 2007. Thiazolidinediones modulate the expression of β-catenin and other cell-cycle regulatory proteins by targeting the F-box proteins of Skp1-Cul1-F-box protein E3 ubiquitin ligase independently of peroxisome proliferator-activated receptor γ. Mol. Pharmacol. 72: 725-733.
2. Robinson, M.M., et al. 2010. Acute β-adrenergic stimulation does not alter mitochondrial protein synthesis or markers of mitochondrial biogenesis in adult men. Am. J. Physiol. Regul. Integr. Comp. Physiol. 298: R25-R33.
3. Urso, L., et al. 2010. Effects of cisplatin on matrix metalloproteinase-2 in transformed thyroid cells. Biochem. Pharmacol. 79: 810-816.
4. Villa-Abrille, M.C., et al. 2011. Silencing of cardiac mitochondrial NHE1 prevents mitochondrial permeability transition pore opening. Am. J. Physiol. Heart Circ. Physiol. 300: H1237-H1251.
5. Venkatesh, M., et al. 2011. *In vivo* and *in vitro* characterization of a first-in-class novel azole analog that targets pregnane X receptor activation. Mol. Pharmacol. 80: 124-135.
6. Khan, O.M., et al. 2011. Geranylgeranyltransferase type I (GGTase-I) deficiency hyperactivates macrophages and induces erosive arthritis in mice. J. Clin. Invest. 121: 628-639.
7. Brejchová, J., et al. 2011. Fluorescence spectroscopy studies of HEK293 cells expressing DOR-Gi1α fusion protein; the effect of cholesterol depletion. Biochim. Biophys. Acta 1808: 2819-2829.