

Na⁺/K⁺-ATPase β2 (35): sc-135997

BACKGROUND

The ubiquitously expressed sodium/potassium-ATPase (Na⁺/K⁺-ATPase) is an oligomeric plasma membrane complex that couples the hydrolysis of one molecule of ATP to the import 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, designated α, β and γ, comprise the Na⁺/K⁺-ATPase oligomer. The α subunit contains the binding sites for ATP and the cations, while 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. Na⁺/K⁺-ATPase β2, also known as ATP1B2, is a 290 amino acid single-pass type II membrane protein that exists as a non-catalytic subunit of the active ATPase complex.

REFERENCES

- Pagliusi, S., et al. 1989. Identification of a cDNA clone specific for the neural cell adhesion molecule AMOG. *J. Neurosci. Res.* 22: 113-119.
- Malo, D., . 1990. Assignment of Na,K-ATPase β2-subunit gene (Atpb-2) to mouse chromosome 11. *Genomics* 6: 697-699.
- Gloor, S., et al. 1990. The adhesion molecule on Glia (AMOG) is a homologue of the β subunit of the Na,K-ATPase. *J. Cell Biol.* 110: 165-174.
- Hsieh, C.L., et al. 1990. Assignment of Amog (adhesion molecule on Glia) gene to mouse chromosome 11 near Zfp-3 and Asgr-1,2 and to human chromosome 17. *Somat. Cell Mol. Genet.* 16: 401-405.
- Stengelin, M.K., et al. 1997. Na,K-ATPase subunit isoforms in human reticulocytes: evidence from reverse transcription-PCR for the presence of α1, α3, β2, β3, and γ. *Proc. Natl. Acad. Sci. USA* 94: 5943-5948.
- Avila, J., et al. 1998. Structure and expression of the human Na,K-ATPase β2-subunit gene. *Gene* 208: 221-227.

CHROMOSOMAL LOCATION

Genetic locus: ATP1B2 (human) mapping to 17p13.1; Atp1b2 (mouse) mapping to 11 B3.

SOURCE

Na⁺/K⁺-ATPase β2 (35) is a mouse monoclonal antibody raised against amino acids 53-175 of Na⁺/K⁺-ATPase β2 of human origin.

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.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 500 µl PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Na⁺/K⁺-ATPase β2 (35) is recommended for detection of Na⁺/K⁺-ATPase β2 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Na⁺/K⁺-ATPase β2 siRNA (h): sc-93774, Na⁺/K⁺-ATPase β2 siRNA (m): sc-149789, Na⁺/K⁺-ATPase β2 shRNA Plasmid (h): sc-93774-SH, Na⁺/K⁺-ATPase β2 shRNA Plasmid (m): sc-149789-SH, Na⁺/K⁺-ATPase β2 shRNA (h) Lentiviral Particles: sc-93774-V and Na⁺/K⁺-ATPase β2 shRNA (m) Lentiviral Particles: sc-149789-V.

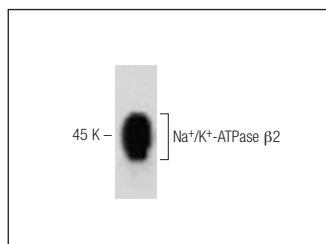
Molecular Weight of Na⁺/K⁺-ATPase β2: 45 kDa.

Positive Controls: rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Na⁺/K⁺-ATPase β2 (35): sc-135997. Western blot analysis of Na⁺/K⁺-ATPase β2 expression in rat brain tissue extract.

RESEARCH USE

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