

Na⁺/K⁺-ATPase β3 (P-14): sc-66343

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.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: *Atp1b3* (mouse) mapping to 9 E3.3.

SOURCE

Na⁺/K⁺-ATPase β3 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Na⁺/K⁺-ATPase β3 of mouse origin.

RESEARCH USE

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

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-66343 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Na⁺/K⁺-ATPase β3 (P-14) is recommended for detection of Na⁺/K⁺-ATPase β3 of mouse 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 Na⁺/K⁺-ATPase β3 siRNA (m): sc-62003; and as shRNA Plasmid control antibody for Na⁺/K⁺-ATPase β3 shRNA Plasmid (m): sc-62003-SH.

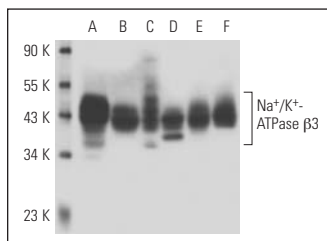
Molecular Weight of Na⁺/K⁺-ATPase β3: 40-60 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

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



Na⁺/K⁺-ATPase β3 (P-14): sc-66343. Western blot analysis of Na⁺/K⁺-ATPase β3 expression in MH-S (A), NIH/3T3 (B) and F9 (C) whole cell lysates and mouse testis (D), mouse prostate (E) and mouse lung (F) tissue extracts.

STORAGE

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