

Na⁺/K⁺-ATPase α 1 (M8-P1-A3): sc-58630

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 to form 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: ATP1A1 (human) mapping to 1p13.1; Atp1a1 (mouse) mapping to 3 F2.2.

SOURCE

Na⁺/K⁺-ATPase α 1 (M8-P1-A3) is a mouse monoclonal antibody raised against Na⁺/K⁺-ATPase α 1 of ovine origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Na⁺/K⁺-ATPase α 1 (M8-P1-A3) is recommended for detection of Na⁺/K⁺-ATPase α 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with the α 1 isoform in *Xenopus* or chicken, or the α 2 or α 3 isoform in rat.

Na⁺/K⁺-ATPase α 1 (M8-P1-A3) is also recommended for detection of Na⁺/K⁺-ATPase α 1 in additional species, including ovine, porcine and canine.

Suitable for use as control antibody for Na⁺/K⁺-ATPase α 1 siRNA (h): sc-36010, Na⁺/K⁺-ATPase α 1 siRNA (m): sc-36011, Na⁺/K⁺-ATPase α 1 shRNA Plasmid (h): sc-36010-SH, Na⁺/K⁺-ATPase α 1 shRNA Plasmid (m): sc-36011-SH, Na⁺/K⁺-ATPase α 1 shRNA (h) Lentiviral Particles: sc-36010-V and Na⁺/K⁺-ATPase α 1 shRNA (m) Lentiviral Particles: sc-36011-V.

Molecular Weight of Na⁺/K⁺-ATPase α 1: 100 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HeLa whole cell lysate: sc-2200 or KNRK + PMA cell lysate: sc-24725.

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.

PROTOCOLS

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



See **Na⁺/K⁺-ATPase α 1 (C464.6): sc-21712** for Na⁺/K⁺-ATPase α 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.