

p-Na⁺/K⁺-ATPase α (Ser 943): sc-16710

BACKGROUND

The ubiquitously expressed sodium/potassium-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, sodium/potassium-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 sodium/potassium-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 colocalizes with the α -subunit in nephron segments where it increases the affinity of sodium/potassium ATPase for ATP. The β -subunit, but not the γ -subunit, is essential for normal activity of sodium/potassium 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 (Ser 943) is available as either goat (sc-16710) or rabbit (sc-16710-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 943 phosphorylated Na⁺/K⁺-ATPase α of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-16710 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Na⁺/K⁺-ATPase α (Ser 943) is recommended for detection of Ser 943 phosphorylated Na⁺/K⁺-ATPase α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

p-Na⁺/K⁺-ATPase α (Ser 943) is also recommended for detection of correspondingly phosphorylated Na⁺/K⁺-ATPase α 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 (h) Lentiviral Particles: sc-43956-V and Na⁺/K⁺-ATPase α shRNA (m) Lentiviral Particles: sc-45886-V.

Molecular Weight of p-Na⁺/K⁺-ATPase α : 113 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Caki-1 cell lysate: sc-2224 or Hep G2 cell lysate: sc-2227.

SELECT PRODUCT CITATIONS

- Oliveira, M.S., et al. 2009. Prostaglandin E2 modulates Na⁺/K⁺-ATPase activity in rat hippocampus: implications for neurological diseases. *J. Neurochem.* 109: 416-426.

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.