**BACKGROUND**

The ubiquitously expressed sodium/potassium-ATPase (Na+/K+-ATPase) exists as an 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-locates 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**


**CHROMOSOMAL LOCATION**

Genetic locus: ATP1B1 (human) mapping to 1q24.2.

**SOURCE**

Na+/K+-ATPase β1 (E-4) is a mouse monoclonal antibody raised against amino acids 41-155 of Na+/K+-ATPase β1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Na+/K+-ATPase β1 (E-4) is available conjugated to agarose (sc-376406 AC), 500 µg/0.25 ml agarose in 1 ml for IP; to HRP (sc-376406 HRP), 200 µg/ml, for WB, (HCP) and ELISA; to either phycoerythrin (sc-376406 PE), fluorescein (sc-376406 FITC), Alexa Fluor® 488 (sc-376406 AF488), Alexa Fluor® 546 (sc-376406 AF546), Alexa Fluor® 594 (sc-376406 AF594) or Alexa Fluor® 647 (sc-376406 AF647), 200 µg/ml, for WB (RGB), IF, IHC/IP and FCM; and to either Alexa Fluor® 680 (sc-376406 AF680) or Alexa Fluor® 790 (sc-376406 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**RESEARCH USE**

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

**APPLICATIONS**

Na+/K+-ATPase β1 (E-4) is recommended for detection of Na+/K+-ATPase β1 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Na+/K+-ATPase β1 siRNA (h): sc-36008, Na+/K+-ATPase β1 shRNA Plasmid (h): sc-36008-SH and Na+/K+-ATPase β1 shRNA (h) Lentiviral Particles: sc-36008-V.

Molecular Weight of Na+/K+-ATPase β1: 40-60 kDa.

Positive Controls: human kidney extract: sc-363764, Caki-1 cell lysate: sc-2224 or human brain tissue extract.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminal Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG BP-FITC: sc-516104 or m-IgG BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Hard-set Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

**DATA**

**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 for detailed protocols and support products.