SANTA CRUZ BIOTECHNOLOGY, INC.

Na^+/K^+-ATPase α4 (N-19): sc-324156

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Na^+/K^+-ATPase α4 (sodium/potassium-transporting ATPase subunit α-4), also known as sodium pump subunit α-4, ATP1A1 or ATP1AL2, is a 1,029 amino acid multi-pass membrane protein that is expressed specifically in testis and the principle piece of mature sperm flagellum, where it functions in sperm motility. Existing as two alternatively spliced isoforms, Na^+/K^+-ATPase α4 belongs to the cation transport ATPase (P-type) family and type IIC subfamily. The gene encoding Na^+/K^+-ATPase α4 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: ATP1A4 (human) mapping to 1q23.2.

SOURCE

Na^+/K^+-ATPase α4 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of Na^+/K^+-ATPase α4 of human origin.

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-324156 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Na^+/K^+-ATPase α4 (N-19) is recommended for detection of Na^+/K^+-ATPase α4 of 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); non cross-reactive with Na^+/K^+-ATPase α1, Na^+/K^+-ATPase α2 or Na^+/K^+-ATPase α3.

Molecular Weight of Na^+/K^+-ATPase α4 isoforms: 114/20 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.