

NKAIN2 (Y-12): sc-168759

BACKGROUND

The ubiquitously expressed sodium/potassium-ATPase (Na⁺/K⁺-ATPase) is an oligomeric plasma membrane complex that couples the hydrolysis of one molecule of ATP to the import 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. NKAIN2 (Na⁺/K⁺ transporting ATPase interacting 2), also known as TCBA or FAM77B, is a 208 amino acid multi-pass membrane protein that exists as multiple alternatively spliced isoforms and interacts with Na⁺/K⁺-ATPase β1, a subunit of the Na⁺/K⁺-ATPase complex. Expressed in fetal brain and also present in adult brain and thymus, NKAIN2 may play a role in the maintenance of solute transport and the regulation of membrane potential.

REFERENCES

1. Tagawa, H., et al. 2002. Molecular cytogenetic analysis of the breakpoint region at 6q21-22 in T cell lymphoma/leukemia cell lines. *Genes Chromosomes Cancer* 34: 175-185.
2. Chen, T.F., et al. 2004. Prokaryotic expression, polyclonal antibody preparation, and subcellular localization analysis of Na⁺, K⁺-ATPase β2 subunit. *Protein Expr. Purif.* 37: 47-52.
3. Boccardi, R., et al. 2005. Molecular characterization of a t(2;6) balanced translocation that is associated with a complex phenotype and leads to truncation of the TCBA1 gene. *Hum. Mutat.* 26: 426-436.
4. Yue, Y., et al. 2006. Disruption of TCBA1 associated with a *de novo* t(1;6)(q32.2;q22.3) presenting in a child with developmental delay and recurrent infections. *J. Med. Genet.* 43: 143-147.
5. Gorokhova, S., et al. 2007. A novel family of transmembrane proteins interacting with β subunits of the Na,K-ATPase. *Hum. Mol. Genet.* 16: 2394-2410.
6. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 609758. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: NKAIN2 (human) mapping to 6q22.31; Nkain2 (mouse) mapping to 10 A4.

SOURCE

NKAIN2 (Y-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NKAIN2 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-168759 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NKAIN2 (Y-12) is recommended for detection of NKAIN2 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); non cross-reactive with NKAIN1, NKAIN3 or NKAIN4.

NKAIN2 (Y-12) is also recommended for detection of NKAIN2 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for NKAIN2 siRNA (h): sc-95178, NKAIN2 siRNA (m): sc-149985, NKAIN2 shRNA Plasmid (h): sc-95178-SH, NKAIN2 shRNA Plasmid (m): sc-149985-SH, NKAIN2 shRNA (h) Lentiviral Particles: sc-95178-V and NKAIN2 shRNA (m) Lentiviral Particles: sc-149985-V.

Molecular Weight of NKAIN2: 24 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.