

# NKAIN1 (T-14): sc-248080

## BACKGROUND

The ubiquitously expressed sodium/potassium-ATPase (Na<sup>+</sup>/K<sup>+</sup>-ATPase) is an oligomeric plasma membrane complex that couples the hydrolysis of one molecule of ATP to the import of three Na<sup>+</sup> ions and two K<sup>+</sup> ions against their respective electrochemical gradients. As a member of the P-type family of ion motives, Na<sup>+</sup>/K<sup>+</sup>-ATPase plays a critical role in maintaining cellular volume, resting membrane potential and Na<sup>+</sup>-coupled solute transport. NKAIN1 (Na<sup>+</sup>/K<sup>+</sup> transporting ATPase interacting 1), also known as FAM77C, is a 207 amino acid multi-pass membrane protein that belongs to the NKAIN family and interacts with the C-terminus of Na<sup>+</sup>/K<sup>+</sup>-ATPase β1. NKAIN1 is expressed in brain and testis, and is encoded by a gene that maps to human chromosome 1p35.2.

## REFERENCES

- Chen, T.F., et al. 2004. Prokaryotic expression, polyclonal antibody preparation, and sub-cellular localization analysis of Na<sup>+</sup>, K<sup>+</sup>-ATPase β2 subunit. *Protein Expr. Purif.* 37: 47-52.
- 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.
- Zatyka, M., et al. 2008. Sodium-potassium ATPase 1 subunit is a molecular partner of Wolframin, an endoplasmic reticulum protein involved in ER stress. *Hum. Mol. Genet.* 17: 190-200.
- Liu, K., et al. 2009. Interference of human Na/K-ATPaseB1 subunit on proliferation and migration of gastric adenocarcinoma cell line SGC-7901. *Ai Zheng* 28: 225-231.
- Bab-Dinitz, E., et al. 2009. A C-terminal lobe of the β subunit of Na,K-ATPase and H,K-ATPase resembles cell adhesion molecules. *Biochemistry* 48: 8684-8691.
- Mehter, N.S., et al. 2009. Na<sup>+</sup>, K<sup>+</sup>-ATPase activity and subunit isoform protein abundance: effects of antenatal glucocorticoids in the frontal cerebral cortex and renal cortex of ovine fetuses. *Reprod Sci.* 16: 294-307.
- Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612871. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: NKAIN1 (human) mapping to 1p35.2; Nkain1 (mouse) mapping to 4 D2.2.

## SOURCE

NKAIN1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NKAIN1 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-248080 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NKAIN1 (T-14) is recommended for detection of NKAIN1 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 NKAIN2, NKAIN3, or NKAIN4.

NKAIN1 (T-14) is also recommended for detection of NKAIN1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for NKAIN1 siRNA (h): sc-78952, NKAIN1 siRNA (m): sc-149984, NKAIN1 shRNA Plasmid (h): sc-78952-SH, NKAIN1 shRNA Plasmid (m): sc-149984-SH, NKAIN1 shRNA (h) Lentiviral Particles: sc-78952-V and NKAIN1 shRNA (m) Lentiviral Particles: sc-149984-V.

Molecular Weight of NKAIN1: 23 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](http://www.scbt.com) or our catalog for detailed protocols and support products.