SANTA CRUZ BIOTECHNOLOGY, INC.

NKAIN2 siRNA (m): sc-149985

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

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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. Bocciardi, 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 (mouse) mapping to 10 A4.

PRODUCT

NKAIN2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NKAIN2 shRNA Plasmid (m): sc-149985-SH and NKAIN2 shRNA (m) Lentiviral Particles: sc-149985-V as alternate gene silencing products.

For independent verification of NKAIN2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149985A, sc-149985B and sc-149985C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NKAIN2 siRNA (m) is recommended for the inhibition of NKAIN2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NKAIN2 gene expression knockdown using RT-PCR Primer: NKAIN2 (m)-PR: sc-149985-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.