SANTA CRUZ BIOTECHNOLOGY, INC.

TASK-5 siRNA (h): sc-76631

BACKGROUND

Potassium (K^+) channels are very widely distributed ion channels that function in regulating charged gradients across cell membranes which are important for resting potential generation, hormonal release and water retention. Potassium channels contain four protein subunits surrounding a central ion conducting pore. The protein subunits can be homotetrameric, producing a symmetric C4 complex, or heterotetrameric, producing a pseudo-symmetric complex. TASK-5 (potassium channel subfamily K member 15), also known as KCNK15, is a potential potassium channel subunit that is thought to form a heterodimer to complete the functional potassium channel. TASK-5 is a membrane bound 330 amino acid polypeptide found at abundant levels in pancreas, heart, placenta, lung, liver, kidney, ovary, testis, skeletal muscle and adrenal gland. TASK-5A, TASK-5B, and TASK-5C are the three known variants of TASK-5 at the protein level.

REFERENCES

1. Rajan, S., et al. 2000. TASK-3, a novel tandem pore domain acid-sensitive K^+ channel. An extracellular histiding as pH sensor. J. Biol. Chem. 275: 16650-16657.
2. Kim, D. and Gnatenco, C. 2001. TASK-5, a new member of the tandem-pore K^+ channel family. Biochem. Biophys. Res. Commun. 284: 923-930.
3. Rajan, S., et al. 2001. THIK-1 and THIK-2, a novel subfamily of tandem pore domain K^+ channels. J. Biol. Chem. 276: 7302-7311.
4. Vega-Saenz de Miera, E., et al. 2001. KT3.2 and KT3.3, two novel human two-pore K^+ channels closely related to TASK-1. J. Neurophysiol. 86: 130-142.
5. Karschin, C., et al. 2001. Expression pattern in brain of TASK-1, TASK-3, and a tandem pore domain K^+ channel subunit, TASK-5, associated with the central auditory nervous system. Mol. Cell. Neurosci. 18: 632-648.
6. Ashmole, I., et al. 2001. TASK-5, a novel member of the tandem pore K^+ channel family. Pflugers Arch. 442: 828-833.

CHROMOSOMAL LOCATION

Genetic locus: KCNK15 (human) mapping to 20q13.12.

PRODUCT

TASK-5 siRNA (h) is a pool of 2 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 TASK-5 shRNA Plasmid (h): sc-76631-SH and TASK-5 shRNA (h) Lentiviral Particles: sc-76631-V as alternate gene silencing products.

For independent verification of TASK-5 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76631A and sc-76631B.

PROTOCOLS

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

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

TASK-5 siRNA (h) is recommended for the inhibition of TASK-5 expression in human 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 TASK-5 gene expression knockdown using RT-PCR Primer: TASK-5 (h)-PR: sc-76631-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.