SANTA CRUZ BIOTECHNOLOGY, INC.

KV6.3 siRNA (m): sc-146613

BACKGROUND

The human voltage-gated potassium (KV) channel KV6.3 gene maps to chromosome 16q24.1 and encodes a modulatory γ subunit that shares 34% sequence identity with KV6.2 and 95.1% identity with the rat ortholog, KV6.3. KV channels regulate neurotransmitter release, heart rate, insulin secretion, neuronal excitability, epithelial electrolyte transport, smooth muscle contraction, and cell volume. KV channels are multimers that contain channel activity-dependent alpha subunits and modulatory gamma subunits. Human KV6.3 transcript is abundant in brain, lung, kidney, thymus, ovary, small intestine, and colon. KV6.3 contains a pore forming domain with 6 transmembrane domains, and interacts with KV2.1.

REFERENCES

1. Martens, J.R., Kwak, Y.G. and Tamkun, M.M. 1999. Modulation of KV channel α/β subunit interactions. Trends Cardiovasc. Med. 9: 253-258.
2. Sano, Y., Mochizuki, S., Miyake, A., Kitada, C., Inamura, K., Yokoi, H., Nozawa, K., Matsushime, H. and Furuichi, K. 2002. Molecular cloning and characterization of KV6.3, a novel modulatory subunit for voltage-gated K^+ channel KV2.1. FEBS Lett. 512: 230-234.
3. Ottschytsch, N., Raes, A., Van Hoorick, D. and Snyders, D.J. 2002. Obligatory heterotetramerization of three previously uncharacterized KV channel α-subunits identified in the human genome. Proc. Natl. Acad. Sci. USA 99: 7986-7991.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 606767. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. LocusLink Report (LocusID: 170850). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Kcng4 (mouse) mapping to 8 E1.

PRODUCT

KV6.3 siRNA (m) is a target-specific 19-25 nt siRNA 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 KV6.3 shRNA Plasmid (m): sc-146613-SH and KV6.3 shRNA (m) Lentiviral Particles: sc-146613-V as alternate gene silencing 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

KV6.3 siRNA (m) is recommended for the inhibition of KV6.3 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 KV6.3 gene expression knockdown using RT-PCR Primer: KV6.3 (m)-PR: sc-146613-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.