SANTA CRUZ BIOTECHNOLOGY, INC.

KCNH8 siRNA (h): sc-78288

BACKGROUND

Voltage-gated potassium channels play an essential role in controlling cellular excitability in the nervous system. They regulate a variety of properties including membrane potential as well as the frequency and structure of action potentials. KCNH8 (potassium voltage-gated channel subfamily H member 8), also called Kv12.1, ELK, ELK1 or ELK3 (ether-a-go-go-like potassium channel 1 or 3), is the α subunit of a multi-pass transmembrane potassium channel. KCNH8 functions in forming the pore of the voltage-gated channel. The channel itself is a homo- or heterotetrameric structure of α subunits that associate with modulating β subunits. KCNH8 is widely expressed in the central nervous system and contains one PAC (PAS-associated C-terminal) domain, one PAS (PER-ARNT-SIM) domain and one cyclic nucleotide-binding domain.

REFERENCES

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2. Wulfsen, I., Hauber, H.P., Schiemann, D., Bauer, C.K. and Schwarz, J.R. 2000. Expression of mRNA for voltage-dependent and inward-rectifying K channels in GH3/B6 cells and rat pituitary. J. Neuroendocrinol. 12: 263-272.
3. Yamakura, T., Lewohl, J.M. and Harris, R.A. 2001. Differential effects of general anesthetics on G protein-coupled inwardly rectifying and other potassium channels. Anesthesiology 95: 144-153.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608260. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Zou, A., Lin, Z., Humble, M., Creech, C.D., Wagoner, P.K., Krafte, D., Jegla, T.J. and Wickenden, A.D. 2003. Distribution and functional properties of human KCNH8 (Elk1) potassium channels. Am. J. Physiol., Cell Physiol. 285: 1356-1366.

CHROMOSOMAL LOCATION

Genetic locus: KCNH8 (human) mapping to 3p24.3.

PRODUCT

KCNH8 siRNA (h) 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 KCNH8 shRNA Plasmid (h): sc-78288-SH and KCNH8 shRNA (h) Lentiviral Particles: sc-78288-V as alternate gene silencing products.

For independent verification of KCNH8 (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-78288A, sc-78288B and sc-78288C.

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

KCNH8 siRNA (h) is recommended for the inhibition of KCNH8 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 KCNH8 gene expression knockdown using RT-PCR Primer: KCNH8 (h)-PR: sc-78288-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.