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KCNH6 siRNA (m): sc-146365

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. KCNH6, also called potassium voltage-gated channel subfamily H member 6 or human ether-a-go-go potassium channel 2 (hEAG2), is an α subunit of a multi-pass transmembrane potassium channel family. KCNH6 functions in forming the pore of the voltage-gated channel. The channel itself is a homo- or heterotetrameric structure of pore-forming α subunits that associate with modulating β subunits. KCNH6 contains one PAS-associated C-terminal (PAC) domain, one PER-ARNT-SIM (PAS) domain and one cyclic nucleotide-binding domain. Expressed as three isoforms produced by alternative splicing, KCNH6 is present in prolactin-secreting adenomas and throughout the brain.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: *Kcnh6* (mouse) mapping to 11 E1.

PROTOCOLS

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

PRODUCT

KCNH6 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KCNH6 shRNA Plasmid (m): sc-146365-SH and KCNH6 shRNA (m) Lentiviral Particles: sc-146365-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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

KCNH6 siRNA (m) is recommended for the inhibition of KCNH6 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

KCNH6 (46): sc-135959 is recommended as a control antibody for monitoring of KCNH6 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KCNH6 gene expression knockdown using RT-PCR Primer: KCNH6 (m)-PR: sc-146365-PR (20 μ l). 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.