SANTA CRUZ BIOTECHNOLOGY, INC.

KCNH3 siRNA (h): sc-95657

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The Power to Question

BACKGROUND

KCNH3 (potassium voltage-gated channel, subfamily H (eag-related), member 3) is a 1,083 amino acid protein that belongs to the Elk potassium channel family. KCNH3 is involved in cellular excitability of restricted neurons in the human central nervous system. KCNH3 is subcellularly located on the membrane and is considered a multi-pass membrane protein. KCNH3 protein has six transmembrane domains, a pore region of voltage-gated potassium channels, a CNB domain and putative N-glycosylation sites. KCNH3 elicits an outward current with fast inactivation, however this current is insensitive to tetraethylammonium and quinidine. Detected only in brain, in particular in the telencephalon, KCNH3 is expressed in cortical structures, such as cerebral cortex, amygdala and hippocampus, and in striatal regions, including the putamen and caudate nucleus. The KCNH3 gene maps to chromosome 12q13.12.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: KCNH3 (human) mapping to 12q13.12.

PROTOCOLS

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

PRODUCT

KCNH3 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 KCNH3 shRNA Plasmid (h): sc-95657-SH and KCNH3 shRNA (h) Lentiviral Particles: sc-95657-V as alternate gene silencing products.

For independent verification of KCNH3 (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-95657A and sc-95657B.

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

KCNH3 siRNA (h) is recommended for the inhibition of KCNH3 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 KCNH3 gene expression knockdown using RT-PCR Primer: KCNH3 (h)-PR: sc-95657-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.