SANTA CRUZ BIOTECHNOLOGY, INC.

KCNV1 siRNA (h): sc-77448

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The Power to Question

BACKGROUND

KCNV1 (potassium voltage-gated channel subfamily V member 1) is also known as KV8.1 (voltage-gated potassium channel subunit KV8.1) or HNKA (neuronal potassium channel α subunit HNKA) and is a 500 amino acid protein that is expressed in brain as a multi-pass membrane protein. KCNV1 has six transmembrane domains and is a potassium channel α-subunit that inhibits the activities of the KV2.1 and KV3.1 channels. KCNV1 is located in the endoplasmic reticulum, but is transferred and inserted into the plasma membrane upon association with KV2.2. The N-terminal regulatory domain of KCNV1 allows it to associate with KV2.2 to form a heteromultimer and become a functional potassium channel. On its own, KCNV1 cannot generate a potassium channel, but as a heteromultimer, it creates a potassium channel with different properties than KV2.2 homomultimers possess. KCNV1 can cause long term changes in electrical signaling which are thought to be important for memory and learning processes.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: KCNV1 (human) mapping to 8q23.2.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

KCNV1 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 KCNV1 shRNA Plasmid (h): sc-77448-SH and KCNV1 shRNA (h) Lentiviral Particles: sc-77448-V as alternate gene silencing products.

For independent verification of KCNV1 (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-77448A, sc-77448B and sc-77448C.

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

KCNV1 siRNA (h) is recommended for the inhibition of KCNV1 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 KCNV1 gene expression knockdown using RT-PCR Primer: KCNV1 (h)-PR: sc-77448-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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