SANTA CRUZ BIOTECHNOLOGY, INC.

KCNMB2 siRNA (m): sc-146368

BACKGROUND

MaxiK channels are large conductance voltage and Ca^{2+}-activated potassium channels which are formed by tetramers of MaxiKα subunits, which create pores that are used for smooth muscle tone and neuronal excitability. These MaxiKα subunits have the ability to coassemble with MaxiKβ subunits that are structurally related and are able to regulate the function of MaxiKα subunits. KCNMB2 (potassium large conductance calcium-activated channel, subfamily M, β member 2) is also known as BKβ2 (BK channel subunit β-2) and is a 235 amino acid MaxiKβ subunit that is localized to the membrane with two transmembrane spanning domains, typical of MaxiKβ subunits. KCNMB2 is expressed in a variety of tissues, with highest expression in ovary and lower expression in kidney, heart and brain. KCNMB2 is able to completely inactivate MaxiK channels by interacting with tetramers of MaxiKα subunits, thereby preventing the formation of potassium-permeable pores in MaxiK channels. KCNMB2 has a ball and chain structure consisting of an N-terminus anchored by a loop-helix motif that is connected to the 4-turn helix chain domain by an unfolded linker at the C-terminus. The N-terminal ball domain is responsible for inactivating MaxiK channels by obstructing the potassium conducting pore on the cytoplasmic surface, thus deactivating cellular excitability that is exhibited by MaxiK channels.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Kcnmb2 (mouse) mapping to 3 A3.

PRODUCT

KCNMB2 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 KCNMB2 shRNA Plasmid (m): sc-146368-SH and KCNMB2 shRNA (m) Lentiviral Particles: sc-146368-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

KCNMB2 siRNA (m) is recommended for the inhibition of KCNMB2 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 KCNMB2 gene expression knockdown using RT-PCR Primer: KCNMB2 (m)-PR: sc-146368-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.