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L-type Ca⁺⁺ CP β2 siRNA (*O. cuniculus*): sc-270054

BACKGROUND

Excitable cells in response to membrane depolarization are involved in a variety of Ca²⁺-dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. Calcium channels are highly diverse, multimeric complexes composed of an α-1 subunit, an intracellular β subunit, a disulfide linked α-2/δ subunit and a transmembrane γ subunit. L-type Ca²⁺ currents initiate muscle contraction, endocrine secretion and gene transcription, and are regulated through second-messenger activated protein phosphorylation pathways. L-type calcium channels may form macromolecular signaling complexes with G protein-coupled receptors, thereby enhancing the selectivity of regulating specific targets. L-type calcium channels in the brain specifically express the γ-2 subunit along with γ-3 and -4 subunits. The γ-2 subunit (also known as stargazin) is abundant in synaptic plasma membranes where it regulates synaptic targeting of AMP receptors in granule cells.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: CACNB2 (*O. cuniculus*) mapping to 16.

PRODUCT

L-type Ca⁺⁺ CP β2 siRNA (*O. cuniculus*) 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 L-type Ca⁺⁺ CP β2 shRNA Plasmid (*O. cuniculus*): sc-270054-SH and L-type Ca⁺⁺ CP β2 shRNA (*O. cuniculus*) Lentiviral Particles: sc-270054-V as alternate gene silencing products.

For independent verification of L-type Ca⁺⁺ CP β2 (*O. cuniculus*) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270054A, sc-270054B and sc-270054C.

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

L-type Ca⁺⁺ CP β2 siRNA (*O. cuniculus*) is recommended for the inhibition of L-type Ca⁺⁺ CP β2 expression in *O. cuniculus* 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 L-type Ca⁺⁺ CP β2 gene expression knockdown using RT-PCR Primer: L-type Ca⁺⁺ CP β2 (*O. cuniculus*)-PR: sc-270054-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.