SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP γ1 siRNA (m): sc-146617

BACKGROUND

Voltage-dependent calcium channels are essential for the release of neurotransmitters. L-type (long lasting current) voltage-dependent calcium channels are composed of four subunits: an α1 subunit, a β subunit, a γ subunit and an α2δ subunit. The β subunit is encoded by four genes, designated β1-β4, all of which contribute to the diversity of calcium currents and are involved in membrane trafficking of the α1 subunit. L-type Ca^{++} CP γ1, also known as CACNLG or CACNG1, is a 222 amino acid multi-pass membrane protein belonging to the PMP-22/EMP/MP20 family. Expressed in skeletal muscle, L-type Ca^{++} CP γ1 is a subunit of the dihydropyridine (DHP) sensitive calcium channel and may play a role in excitation-contraction coupling. L-type Ca^{++} CP γ1 is considered a novel marker for malignant hyperthermia susceptibility (MHS), an autosomal dominant disorder of skeletal muscle which manifests as a life-threatening hypermetabolic crisis triggered by commonly used inhalation anaesthetics and depolarizing muscle relaxants.

REFERENCES

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Cacng1 (mouse) mapping to 11 E1.

PRODUCT

L-type Ca^{++} CP γ1 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 L-type Ca^{++} CP γ1 shRNA Plasmid (m): sc-146617-SH and L-type Ca^{++} CP γ1 shRNA (m) Lentiviral Particles: sc-146617-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

L-type Ca^{++} CP γ1 siRNA (m) is recommended for the inhibition of L-type Ca^{++} CP γ1 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 L-type Ca^{++} CP γ1 gene expression knockdown using RT-PCR Primer: L-type Ca^{++} CP γ1 (m)-PR: sc-146617-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.