SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP γ5 siRNA (h): sc-93924

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. L-type Ca^{++} CP γ5 (calcium channel, voltage-dependent, γ subunit 5), also known as TARP γ-5 (transmembrane AMPAR regulatory protein γ-5) or neuronal voltage-gated calcium channel γ-5 subunit, is a 275 amino acid multi-pass membrane protein that belongs to the PMP-22/EMP/MP20 family and CACNG subfamily. Functioning as a type II transmembrane AMPA receptor regulatory protein (TARP), L-type Ca^{++} CP γ5 influences the rate of gating properties of AMPA-selective glutamate receptors. The gene encoding L-type Ca^{++} CP γ5 maps to human chromosome 17q24.2 and mouse chromosome 11 E1.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: CACNG5 (human) mapping to 17q24.2.

PROTOCOLS

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

PRODUCT

L-type Ca^{++} CP γ5 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 L-type Ca^{++} CP γ5 shRNA Plasmid (h): sc-93924-SH and L-type Ca^{++} CP γ5 shRNA (h) Lentiviral Particles: sc-93924-V as alternate gene silencing products.

For independent verification of L-type Ca^{++} CP γ5 (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-93924A and sc-93924B.

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 γ5 siRNA (h) is recommended for the inhibition of L-type Ca^{++} CP γ5 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 L-type Ca^{++} CP γ5 gene expression knockdown using RT-PCR Primer: L-type Ca^{++} CP γ5 (h)-PR: sc-93924-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.