

# L-type Ca<sup>++</sup> CP $\gamma$ 5 siRNA (m): sc-146619

## 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  $\alpha$ 1 subunit, a  $\beta$  subunit, a  $\gamma$  subunit and an  $\alpha$ 2 $\delta$  subunit. L-type Ca<sup>++</sup> CP  $\gamma$ 5 (calcium channel, voltage-dependent,  $\gamma$  subunit 5), also known as TARP  $\gamma$ -5 (transmembrane AMPAR regulatory protein  $\gamma$ -5) or neuronal voltage-gated calcium channel  $\gamma$ -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<sup>++</sup> CP  $\gamma$ 5 influences the rate of gating properties of AMPA-selective glutamate receptors. The gene encoding L-type Ca<sup>++</sup> CP  $\gamma$ 5 maps to human chromosome 17q24.2 and mouse chromosome 11 E1.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Cacng5 (mouse) mapping to 11 E1.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

L-type Ca<sup>++</sup> CP  $\gamma$ 5 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see L-type Ca<sup>++</sup> CP  $\gamma$ 5 shRNA Plasmid (m): sc-146619-SH and L-type Ca<sup>++</sup> CP  $\gamma$ 5 shRNA (m) Lentiviral Particles: sc-146619-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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

L-type Ca<sup>++</sup> CP  $\gamma$ 5 siRNA (m) is recommended for the inhibition of L-type Ca<sup>++</sup> CP  $\gamma$ 5 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  $\mu$ M in 66  $\mu$ l. 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<sup>++</sup> CP  $\gamma$ 5 gene expression knockdown using RT-PCR Primer: L-type Ca<sup>++</sup> CP  $\gamma$ 5 (m)-PR: sc-146619-PR (20  $\mu$ l). 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.