

L-type Ca⁺⁺ CP γ 3 siRNA (m): sc-155914

BACKGROUND

Voltage-dependent calcium channels are important for the release of neurotransmitters into neurons. L-type (long lasting current) voltage-dependent calcium channels are composed of four subunits: an α 1 subunit, a β subunit, a γ subunit and an α 2/ δ subunit. The γ subunit is made of eight distinct proteins (designated L-type Ca⁺⁺ CP γ 1- γ 8) and functions by influencing the properties of the calcium current. L-type Ca⁺⁺ CP γ 3, also known as CACNG3 or Cacng2, is a 315 amino acid multi-pass membrane protein that belongs to the CACNG family. As one of the eight γ subunits, L-type Ca⁺⁺ CP γ 3 is thought to stabilize the calcium current when the calcium channel is in a closed (inactivated) state. Defects in the gene encoding L-type Ca⁺⁺ CP γ 3 may be associated with familial infantile convulsive disorder with paroxysmal choreoathetosis, an autosomal dominant neurological disorder.

REFERENCES

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3. Black, J.L. and Lennon, V.A. 1999. Identification and cloning of putative human neuronal voltage-gated calcium channel γ -2 and γ -3 subunits: neurologic implications. *Mayo Clin. Proc.* 74: 357-361.
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5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606403. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Moss, F.J., et al. 2003. Human neuronal stargazin-like proteins, γ 2, γ 3 and γ 4; an investigation of their specific localization in human brain and their influence on Cav2.1 voltage-dependent calcium channels expressed in *Xenopus* oocytes. *BMC Neurosci.* 4: 23.

CHROMOSOMAL LOCATION

Genetic locus: Cacng3 (mouse) mapping to 7 F3.

PRODUCT

L-type Ca⁺⁺ CP γ 3 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see L-type Ca⁺⁺ CP γ 3 shRNA Plasmid (m): sc-155914-SH and L-type Ca⁺⁺ CP γ 3 shRNA (m) Lentiviral Particles: sc-155914-V as alternate gene silencing products.

For independent verification of L-type Ca⁺⁺ CP γ 3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-155914A, sc-155914B and sc-155914C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

L-type Ca⁺⁺ CP γ 3 siRNA (m) is recommended for the inhibition of L-type Ca⁺⁺ CP γ 3 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

L-type Ca⁺⁺ CP γ 3 (A-07): sc-81889 is recommended as a control antibody for monitoring of L-type Ca⁺⁺ CP γ 3 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor L-type Ca⁺⁺ CP γ 3 gene expression knockdown using RT-PCR Primer: L-type Ca⁺⁺ CP γ 3 (m)-PR: sc-155914-PR (20 μ 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.

PROTOCOLS

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