SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP γ7 siRNA (m): sc-146620

BACKGROUND

L-type Ca^{++} CP γ7 (voltage-dependent calcium channel γ-7 subunit), also known as CACNG7 or TARP γ-7 (transmembrane AMPAR regulatory protein γ-7), is a 275 amino acid multi-pass membrane protein belonging to the PMP-22/EMP/MP20 family and CACNG subfamily. Widely expressed, L-type Ca^{++} CP γ7 is composed of five subunits, designated α-1, α-2/δ, β and γ. L-type Ca^{++} CP γ7 acts as an auxiliary subunit for AMPA-selective glutamate receptors (AMPARs) and regulates AMPAR trafficking and channel gating properties. L-type Ca^{++} CP γ7 may stabilize the calcium channel when in an inactivated state and displays subunit-specific AMPAR regulation. The gene encoding L-type Ca^{++} CP γ7 maps to human chromosome 19q13.42 and mouse chromosome 7 A1.

REFERENCES

1. Chu, P.J., Robertson, H.M. and Best, P.M. 2001. Calcium channel γ subunits provide insights into the evolution of this gene family. Gene 280: 37-48.
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4. Chen, R.S., Deng, T.C., Garcia, T., Sellers, Z.M. and Best, P.M. 2007. Calcium channel γ subunits: a functionally diverse protein family. Cell Biochem. Biophys. 47: 178-186.
5. Kato, A.S., Gill, M.B., Ho, M.T., Yu, H., Tu, Y., Siuda, E.R., Wang, H., Qian, Y.W., Nisenbaum, E.S., Tomita, S. and Bredt, D.S. 2010. Hippocampal AMPA receptor gating controlled by both TARP and cornichon proteins. Neuron 68: 1082-1096.

CHROMOSOMAL LOCATION

Genetic locus: Cacng7 (mouse) mapping to 7 A1.

PRODUCT

L-type Ca^{++} CP γ7 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 γ7 shRNA Plasmid (m): sc-146620-SH and L-type Ca^{++} CP γ7 shRNA (m) Lentiviral Particles: sc-146620-V as alternate gene silencing products.

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.

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 γ7 siRNA (m) is recommended for the inhibition of L-type Ca^{++} CP γ7 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 γ7 gene expression knockdown using RT-PCR Primer: L-type Ca^{++} CP γ7 (m)-PR: sc-146620-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.