SANTA CRUZ BIOTECHNOLOGY, INC.

L-type Ca^{++} CP γ7 siRNA (h): sc-97526

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

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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 (human) mapping to 19q13.42.

PRODUCT

L-type Ca^{++} CP γ7 siRNA (h) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see L-type Ca^{++} CP γ7 shRNA Plasmid (h): sc-97526-SH and L-type Ca^{++} CP γ7 shRNA (h) Lentiviral Particles: sc-97526-V as alternate gene silencing products.

For independent verification of L-type Ca^{++} CP γ7 (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-97526A, sc-97526B and sc-97526C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 (h) is recommended for the inhibition of L-type Ca^{++} CP γ7 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 γ7 gene expression knockdown using RT-PCR Primer: L-type Ca^{++} CP γ7 (h)-PR: sc-97526-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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