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plasmolipin siRNA (m): sc-152292

BACKGROUND

Plasmolipin, also known as plasma membrane proteolipid, PLLP, PMLP or TM4SF11, is a 182 amino acid long protein that belongs to the tetraspan (4TM) myelin proteins. It is a member of the MAL family and contains a conserved MARVEL domain. Plasmolipin is a myelin structural protein and constitutes approximately 50% of myelin protein. It is found in kidney localizing to the apical surface of tubular epithelial cells and in brain localizing to myelinated tracts. Plasmolipin is involved in myelination and the formation of ion channels. The addition of plasmolipin to lipid bilayers stimulates the formation of voltage-dependent, K⁺-selective ion channels. The expression of the gene encoding plasmolipin is down-regulated in patients with schizophrenia, in patients with a major depressive disorder and by long-term sleep deprivation.

REFERENCES

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2. Hamacher, M., et al. 2001. plasmolipin: genomic structure, chromosomal localization, protein expression pattern, and putative association with Bardet-Biedl syndrome. *Mamm. Genome* 12: 933-937.
3. Bosse, F., et al. 2003. Proteolipid plasmolipin: localization in polarized cells, regulated expression and lipid raft association in CNS and PNS myelin. *J. Neurochem.* 86: 508-518.
4. Aston, C., et al. 2004. Microarray analysis of postmortem temporal cortex from patients with schizophrenia. *J. Neurosci. Res.* 77: 858-866.
5. Aston, C., et al. 2005. Transcriptional profiling reveals evidence for signaling and oligodendroglial abnormalities in the temporal cortex from patients with major depressive disorder. *Mol. Psychiatry* 10: 309-322.
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CHROMOSOMAL LOCATION

Genetic locus: Pllp (mouse) mapping to 8 C5.

PRODUCT

plasmolipin 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 plasmolipin shRNA Plasmid (m): sc-152292-SH and plasmolipin shRNA (m) Lentiviral Particles: sc-152292-V as alternate gene silencing products.

For independent verification of plasmolipin (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-152292A, sc-152292B and sc-152292C.

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 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

plasmolipin siRNA (m) is recommended for the inhibition of plasmolipin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor plasmolipin gene expression knockdown using RT-PCR Primer: plasmolipin (m)-PR: sc-152292-PR (20 μ l). 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.