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SANTA CRUZ BIOTECHNOLOGY, INC.

Slp3 siRNA (m): sc-153605

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Synaptotagmin genes encode a large family of synaptic vesicle type III integral membrane proteins that function as regulators of both exocytosis and endocytosis and are involved in neurotransmitter secretion from small secretory vesicles. Slp3 (synaptotagmin-like protein 3), also known as SYTL3 or Exophilin-6, is a 610 amino acid intracytoplasmic membrane protein that contains one Rab binding domain and two C2 domains. Functioning as a monomer, Slp3 is thought to act as a Rab effector protein that, similar to Synaptotagmins, may play a role in vesicle trafficking. Slp3 binds to target proteins via its N-terminal Rab binding domain and is able to bind phospholipids (via its C-terminal C2 domain) in the presence of calcium. Two isoforms of Slp3 exist due to alternative splicing events.

REFERENCES

1. Sutton, R.B., et al. 1995. Structure of the first C2 domain of synaptotagmin I: a novel Ca^{2+}/phospholipid-binding fold. Cell 80: 929-938.
2. Fukuda, M., et al. 2001. Synaptotagmin-like protein 1-3: a novel family of C-terminal-type tandem C2 proteins. Biochem. Biophys. Res. Commun. 281: 1226-1233.
3. Fukuda, M., et al. 2001. Novel splicing isoforms of synaptotagmin-like proteins 2 and 3: identification of the Slp homology domain. Biochem. Biophys. Res. Commun. 283: 513-519.
4. Fukuda, M. 2002. The C2A domain of synaptotagmin-like protein 3 (Slp3) is an atypical calcium-dependent phospholipid-binding machine: comparison with the C2A domain of synaptotagmin I. Biochem. J. 366: 681-687.
5. Fukuda, M. 2003. Slp4-a/granuphilin-a inhibits dense-core vesicle exocytosis through interaction with the GDP-bound form of Rab27A in PC12 cells. J. Biol. Chem. 278: 15390-15396.
6. Kimura, K., et al. 2006. Diversification of transcriptional modulation: large-scale identification and characterization of putative alternative promoters of human genes. Genome Res. 16: 55-65.
7. Gauthier, B.R., et al. 2008. Synaptotagmins bind calcium to release Insulin. Am. J. Physiol. Endocrinol. Metab. 295: E1279-E1286.

CHROMOSOMAL LOCATION

Genetic locus: Sytl3 (mouse) mapping to 17 A1.

PRODUCT

Slp3 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 Slp3 shRNA Plasmid (m): sc-153605-SH and Slp3 shRNA (m) Lentiviral Particles: sc-153605-V as alternate gene silencing products.

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

Slp3 siRNA (m) is recommended for the inhibition of Slp3 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 Slp3 gene expression knockdown using RT-PCR Primer: Slp3 (m)-PR: sc-153605-PR (20 µl, 599 bp). 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.