SANTA CRUZ BIOTECHNOLOGY, INC.

Synaptotagmin VIII siRNA (m): sc-153975

BACKGROUND

Synaptotagmins are a large gene 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. The Synaptotagmin family of proteins share a common domain structure that consists of a transmembrane domain and a cytoplasmic region composed of two C2 domains. Synaptotagmin VIII, also known as SYT8, is a 401 amino acid single-pass type III membrane protein belonging to the Synaptotagmin family. Containing two C2 domains, Synaptotagmin VIII exists as a homodimer or homooligomer. Synaptotagmin VIII exists as two alternatively spliced isoforms, isoform 1 and isoform 4. Synaptotagmin VIII isoform 4 is thought to participate in the trafficking and exocytosis of secretory vesicles in non-neuronal tissues.

REFERENCES

1. Hilbush, B.S. and Morgan, J.I. 1994. A third Synaptotagmin gene, Syt3, in the mouse. Proc. Natl. Acad. Sci. USA 91: 8195-8199.
2. Li, C., et al. 1995. Ca^{2+}-dependent and -independent activities of neural and non-neural synaptotagmins. Nature 375: 594-599.
3. Kishore, B.K., et al. 1998. Expression of synaptotagmin VIII in rat kidney. Am. J. Physiol. 275: F131-F142.
4. Xi, D., et al. 1999. Analysis of Synaptotagmin I-IV messenger RNA expression and developmental regulation in the rat hypothalamus and pituitary. Neuroscience 88: 425-435.
5. Ferguson, G.D., et al. 2000. The human Synaptotagmin IV gene defines an evolutionary break point between syntenic mouse and human chromosome regions but retains ligand inducibility and tissue specificity. J. Biol. Chem. 275: 36920-3696.
6. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number:607719. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Xu, Z., et al. 2011. Mapping of INS promoter interactions reveals its role in long-range regulation of SYT8 transcription. Nat. Struct. Mol. Biol. 18: 372-378.

CHROMOSOMAL LOCATION

Genetic locus: Syt8 (mouse) mapping to 7 F5.

PRODUCT

Synaptotagmin VIII 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Synaptotagmin VIII shRNA Plasmid (m): sc-153975-SH and Synaptotagmin VIII shRNA (m) Lentiviral Particles: sc-153975-V as alternate gene silencing products.

For independent verification of Synaptotagmin VIII (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-153975A, sc-153975B and sc-153975C.

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

Synaptotagmin VIII siRNA (m) is recommended for the inhibition of Synaptotagmin VIII 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 Synaptotagmin VIII gene expression knockdown using RT-PCR Primer: Synaptotagmin VIII (m)-PR: sc-153975-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, T., et al. 2018. Identification and characterization of a core fucosidase from the bacterium *Elizabethkingia meningoseptica*. J. Biol. Chem. 293: 1243-1258.

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.