



# Synaptotagmin XIV siRNA (m): sc-153980

## 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. Synaptotagmin XIV, also known as SytXIV, is a 555 amino acid single-pass type III membrane protein belonging to the Synaptotagmin family. With the ability to form heterodimers, Synaptotagmin XIV mainly exists as a homodimer and contains two C2 domains, an N-terminal transmembrane domain and a putative fatty-acylation site. Synaptotagmin XIV is  $\text{Ca}^{2+}$ -independent and may function in the trafficking and exocytosis of secretory vesicles to tissues outside the brain. Disruption of Synaptotagmin XIV may be affiliated with neurodevelopmental abnormalities. Synaptotagmin XIV exists as six alternatively spliced isoforms and is encoded by a gene on human chromosome 1q32.2.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Syt14 (mouse) mapping to 1 H6.

## RESEARCH USE

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

## PRODUCT

Synaptotagmin XIV 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  $\mu\text{M}$  solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Synaptotagmin XIV shRNA Plasmid (m): sc-153980-SH and Synaptotagmin XIV shRNA (m) Lentiviral Particles: sc-153980-V as alternate gene silencing products.

For independent verification of Synaptotagmin XIV (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-153980A, sc-153980B and sc-153980C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}\text{C}$  with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}\text{C}$ , avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu\text{l}$  of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu\text{l}$  of RNase-free water makes a 10  $\mu\text{M}$  solution in a 10  $\mu\text{M}$  Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Synaptotagmin XIV siRNA (m) is recommended for the inhibition of Synaptotagmin XIV 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  $\mu\text{M}$  in 66  $\mu\text{l}$ . 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 Synaptotagmin XIV gene expression knockdown using RT-PCR Primer: Synaptotagmin XIV (m)-PR: sc-153980-PR (20  $\mu\text{l}$ ). Annealing temperature for the primers should be  $55-60^{\circ}\text{C}$  and the extension temperature should be  $68-72^{\circ}\text{C}$ .

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.