

Syntaxin 18 siRNA (m): sc-63093

BACKGROUND

Correct vesicular transport is essential to the survival of eukaryotic cells. This process is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). This complex then recruits soluble NSF attachment proteins (SNAPs) and N-ethylmaleimide-sensitive factor (NSF) to form the highly stable SNAP receptor (SNARE) complex. The formation of a SNARE complex pulls the vesicle and target membrane together and may provide the energy to drive fusion of the lipid bilayers. Syntaxins, a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane, display broad tissue distribution and contain carboxy-terminal hydrophobic domains that direct themselves to their respective intracellular compartments. Syntaxin 18 mainly localizes to the endoplasmic reticulum (ER), and functions in transport between the ER and Golgi. Syntaxin 18 also plays a role in ER-mediated phagocytosis, possibly by regulating the specific fusion of the ER and plasma or phagosomal membranes.

REFERENCES

1. Shibuya, H., et al. 2000. Enhancement of the thermostability and hydrolytic activity of xylanase by random gene shuffling. *Biochem. J.* 349: 651-656.
2. Hatsuzawa, K., et al. 2000. Syntaxin 18, a SNAP receptor that functions in the endoplasmic reticulum, intermediate compartment, and *cis*-Golgi vesicle trafficking. *J. Biol. Chem.* 275: 13713-13720.
3. Bossis, I., et al. 2005. Interaction of tSNARE Syntaxin 18 with the papillomavirus minor capsid protein mediates infection. *J. Virol.* 79: 6723-6731.
4. Arasaki, K., et al. 2006. RINT-1 regulates the localization and entry of ZW10 to the Syntaxin 18 complex. *Mol. Biol. Cell* 17: 2780-2788.

CHROMOSOMAL LOCATION

Genetic locus: Stx18 (mouse) mapping to 5 B3.

PRODUCT

Syntaxin 18 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 Syntaxin 18 shRNA Plasmid (m): sc-63093-SH and Syntaxin 18 shRNA (m) Lentiviral Particles: sc-63093-V as alternate gene silencing products.

For independent verification of Syntaxin 18 (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-63093A, sc-63093B and sc-63093C.

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

Syntaxin 18 siRNA (m) is recommended for the inhibition of Syntaxin 18 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.

GENE EXPRESSION MONITORING

Syntaxin 18 (10): sc-293067 is recommended as a control antibody for monitoring of Syntaxin 18 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Syntaxin 18 gene expression knockdown using RT-PCR Primer: Syntaxin 18 (m)-PR: sc-63093-PR (20 μ l). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

SELECT PRODUCT CITATIONS

1. Canton, J., et al. 2012. Disruption of the fusion of *Leishmania parasitophorous* vacuoles with ER vesicles results in the control of the infection. *Cell. Microbiol.* 14: 937-948.

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.