

Syntaxin 6 siRNA (m): sc-41333

BACKGROUND

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. Synaptin 6 is a 255 amino acid protein that is widely expressed, with higher expression levels in brain, lung and kidney. This synaptin co-localizes with vesicle associated membrane protein (VAMP) 4 to tubular and vesicular membranes of the Golgi apparatus. The cytosolic domain of Syntaxin 6 reduces the rate on Glut4 reinternalization upon Insulin withdrawal and is involved in a membrane-trafficking process that removes Glut4 from traffic directed to the plasma membrane. Syntaxin 6 is upregulated in activated macrophages in conjunction with an increase in the secretion of cytokines. The delivery of microdomain-associated lipids and proteins to the cell surface is regulated by Syntaxin 6.

REFERENCES

1. Bennett, M.K., et al. 1993. The syntaxin family of vesicular transport receptors. *Cell* 74: 863-873.
2. Bock, J.B., et al. 1996. A new syntaxin family member implicated in targeting of intracellular transport vesicles. *J. Biol. Chem.* 271: 17961-17965.
3. Bock, J.B., et al. 1997. Syntaxin 6 functions in *trans*-Golgi network vesicle trafficking. *Mol. Biol. Cell* 8: 1261-1271.
4. Wendler, F., et al. 2001. Syntaxin 6: the promiscuous behaviour of a SNARE protein. *Traffic* 2: 606-611.
5. Wendler, F., et al. 2001. Homotypic fusion of immature secretory granules during maturation requires Syntaxin 6. *Mol. Biol. Cell* 12: 1699-1709.
6. Misura, K.M., et al. 2002. Three-dimensional structure of the amino-terminal domain of Syntaxin 6, a SNAPC homolog. *Proc. Natl. Acad. Sci. USA* 99: 9184-9189.
7. Perera, H.K., et al. 2003. Syntaxin 6 regulates Glut4 trafficking in 3T3-L1 adipocytes. *Mol. Biol. Cell* 14: 2946-2958.
8. Kuliawat, R., et al. 2004. Syntaxin 6 SNARE involvement in secretory and endocytic pathways of cultured pancreatic β cells. *Mol. Biol. Cell* 15: 1690-1701.
9. Murray, R.Z., et al. 2005. Syntaxin 6 and Vti1b form a novel SNARE complex, which is upregulated in activated macrophages to facilitate exocytosis of tumor necrosis factor α . *J. Biol. Chem.* 280: 10478-10483.

CHROMOSOMAL LOCATION

Genetic locus: Stx6 (mouse) mapping to 1 G3.

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.

PRODUCT

Syntaxin 6 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 6 shRNA Plasmid (m): sc-41333-SH and Syntaxin 6 shRNA (m) Lentiviral Particles: sc-41333-V as alternate gene silencing products.

For independent verification of Syntaxin 6 (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-41333A, sc-41333B and sc-41333C.

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 6 siRNA (m) is recommended for the inhibition of Syntaxin 6 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 Syntaxin 6 gene expression knockdown using RT-PCR Primer: Syntaxin 6 (m)-PR: sc-41333-PR (20 μ l, 422 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.