

# Syntaxin 11 siRNA (m): sc-153991

## BACKGROUND

Syntaxins, a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane, display broad tissue distribution and contain C-terminal hydrophobic domains that direct them to their respective intracellular compartments. Syntaxin 11, also known as STX11, FHL4, HLH4 or HPLH4 is a 287 amino acid protein that contains one t-SNARE coiled-coil homology domain and localizes to the membrane of the trans-golgi network. Interacting with SNAP 23 and VAMP, Syntaxin 11 functions to regulate protein transport between the *trans*-Golgi network and late endosomes. Defects in the gene encoding Syntaxin 11 are the cause of familial hemophagocytic lymphohistiocytosis type 4 (FHL4), a genetically heterogeneous autosomal recessive disorder that is characterized by fever, hepatosplenomegaly, cytopenia, hypertriglyceridemia, hypofibrinogenemia, seizures, cranial nerve deficits and ataxia.

## REFERENCES

1. Tang, B.L., Low, D.Y. and Hong, W. 1998. Syntaxin 11: a member of the syntaxin family without a carboxyl terminal transmembrane domain. *Biochem. Biophys. Res. Commun.* 245: 627-632.
2. Valdez, A.C., Cabaniols, J.P., Brown, M.J. and Roche, P.A. 1999. Syntaxin 11 is associated with SNAP-23 on late endosomes and the *trans*-Golgi network. *J. Cell Sci.* 112: 845-854.
3. Zur Stadt, U., Schmidt, S., Kasper, B., Beutel, K., Diler, A.S., Henter, J.I., Kabisch, H., Schneppenheim, R., Nürnberg, P., Janka, G. and Hennies, H.C. 2005. Linkage of familial hemophagocytic lymphohistiocytosis (FHL) type-4 to chromosome 6q24 and identification of mutations in syntaxin 11. *Hum. Mol. Genet.* 14: 827-834.
4. Yamamoto, K., Ishii, E., Horiuchi, H., Ueda, I., Ohga, S., Nishi, M., Ogata, Y., Zaito, M., Morimoto, A., Hara, T., Imashuku, S., Sasazuki, T. and Yasukawa, M. 2005. Mutations of syntaxin 11 and SNAP23 genes as causes of familial hemophagocytic lymphohistiocytosis were not found in Japanese people. *J. Hum. Genet.* 50: 600-603.
5. Zur Stadt, U., Beutel, K., Kolberg, S., Schneppenheim, R., Kabisch, H., Janka, G. and Hennies, H.C. 2006. Mutation spectrum in children with primary hemophagocytic lymphohistiocytosis: molecular and functional analyses of PRF1, UNC13D, STX11, and RAB27A. *Hum. Mutat.* 27: 62-68.
6. Bryceson, Y.T., Rudd, E., Zheng, C., Edner, J., Ma, D., Wood, S.M., Bechensteen, A.G., Boelens, J.J., Celkan, T., Farah, R.A., Hultenby, K., Winiarski, J., Roche, P.A., Nordenskjöld, M., Henter, J.I., Long, E.O., et al. 2007. Defective cytotoxic lymphocyte degranulation in syntaxin-11 deficient familial hemophagocytic lymphohistiocytosis 4 (FHL4) patients. *Blood* 110: 1906-1915.
7. Arneson, L.N., Brickshawana, A., Segovis, C.M., Schoon, R.A., Dick, C.J. and Leibson, P.J. 2007. Cutting edge: syntaxin 11 regulates lymphocyte-mediated secretion and cytotoxicity. *J. Immunol.* 179: 3397-3401.
8. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 605014. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: Stx11 (mouse) mapping to 10 A1.

## PRODUCT

Syntaxin 11 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Syntaxin 11 shRNA Plasmid (m): sc-153991-SH and Syntaxin 11 shRNA (m) Lentiviral Particles: sc-153991-V as alternate gene silencing products.

For independent verification of Syntaxin 11 (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-153991A, sc-153991B and sc-153991C.

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

## APPLICATIONS

Syntaxin 11 siRNA (m) is recommended for the inhibition of Syntaxin 11 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  $\mu$ M in 66  $\mu$ 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 11 gene expression knockdown using RT-PCR Primer: Syntaxin 11 (m)-PR: sc-153991-PR (20  $\mu$ l). 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.