SANTA CRUZ BIOTECHNOLOGY, INC.

Syntaxin 16 siRNA (h): sc-41336

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 16 is specifically required for, and restricted to, the retrograde transport pathway that allows proteins and lipids to leave the endocytic pathway to reach other intracellular compartments, such as *trans*-Golgi network (TGN)/Golgi membranes, the endoplasmic reticulum and, in some instances, the cytosol.

REFERENCES

1. McNew, J.A., et al. 1997. Ykt6p, a prenylated SNARE essential for endoplasmic reticulum-Golgi transport. J. Biol. Chem. 272: 17776-17783.
2. von Mollard, G.F. and Stevens, T.H. 1998. A human homolog can functionally replace the yeast vesicle-associated SNARE Vti1p in two vesicle transport pathways. J. Biol. Chem. 273: 2624-2630.
3. Catchpoole, D.R. and Wanjin, H. 1999. Characterization of the sequence and expression of a Ykt6 prenylated SNARE from rat. DNA Cell Biol. 18: 141-145.
4. Cao, X. and Barlowe, C. 2000. Asymmetric requirements for a Rab GTPase and SNARE proteins in fusion of COPII vesicles with acceptor membranes. J. Cell Biol. 149: 55-66.
5. Tsui, M.M. and Banfield, D.K. 2000. Yeast Golgi SNARE interactions are promiscuous. J. Cell Sci. 113: 145-152.
6. Amessou, M., et al. 2007. Syntaxin 16 and syntaxin 5 are required for efficient retrograde transport of several exogenous and endogenous cargo proteins. J. Cell Sci. 120: 1457-1468.

CHROMOSOMAL LOCATION

Genetic locus: STX16 (human) mapping to 20q13.32.

PRODUCT

Syntaxin 16 siRNA (h) 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 Syntaxin 16 shRNA Plasmid (h): sc-41336-SH and Syntaxin 16 shRNA (h) Lentiviral Particles: sc-41336-V as alternate gene silencing products.

For independent verification of Syntaxin 16 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-41336A, sc-41336B and sc-41336C.

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

Syntaxin 16 siRNA (h) is recommended for the inhibition of Syntaxin 16 expression in human 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 Syntaxin 16 gene expression knockdown using RT-PCR Primer: Syntaxin 16 (h)-PR: sc-41336-PR (20 µl). 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.