SANTA CRUZ BIOTECHNOLOGY, INC.

Syntabulin siRNA (h): sc-77772

BACKGROUND

Syntabulin (Golgi-localized protein), also known as Syntaxin-1-binding protein, Golgi-localized syntaphilin-related protein, GOLSYN, SYBU, FLJ20366 or KIAA1472, is a 663 amino acid peripheral membrane-associated protein that forms a kinesin motor-adapter complex responsible for anterograde trafficking of mitochondria to neuronal processes and activity-dependent presynaptic assembly during neuronal development. The gene encoding Syntabulin maps to human chromosome 8q23.2, and five Syntabulin isoforms as a result of alternative splicing events. While isoform 2 is not fully characterized, isoform 1 is known to colocalize with syntaxin vesicles and shows cytoplasmic, cytoskeletal and cytoplasmic vesicle localization. Isoforms 3, 4 and 5 (also known as GOLSYN A, C and B, respectively) are single-pass membrane proteins which localize to the Golgi apparatus membrane. Syntabulin is highly expressed in brain and amygdala, with lower levels of expression in lung, ovary, liver, skeletal muscle, pancreas and kidney.

REFERENCES

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2. Funakoshi, E., Nakagawa, K.Y., Hamano, A., Hori, T., Shimizu, A., Asakawa, S., Shimizu, N. and Ito, F. 2005. Molecular cloning and characterization of gene for Golgi-localized syntaphilin-related protein on human chromosome 8q23. Gene 344: 259-271.
3. Cai, Q., Gerwin, C. and Sheng, Z.H. 2005. Syntabulin-mediated anterograde transport of mitochondria along neuronal processes. J. Cell Biol. 170: 959-969.
4. Funakoshi, E., Fukui, M., Hamano, A., Okamoto, H., Sugiyama, C., Nishiyama, N., Ogita, K., Hori, T., Shimizu, N. and Ito, F. 2006. Expression of m-Golsyn/Syntabulin gene during mouse brain development. Neurosci. Lett. 403: 244-249.
5. Cai, Q., Pan, P.Y. and Sheng, Z.H. 2007. Syntabulin-kinesin-1 family member 5B-mediated axonal transport contributes to activity-dependent presynaptic assembly. J. Neurosci. 27: 7284-7296.

CHROMOSOMAL LOCATION

Genetic locus: SYBU (human) mapping to 8q23.2.

PRODUCT

Syntabulin 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 Syntabulin shRNA Plasmid (h): sc-77772-SH and Syntabulin shRNA (h) Lentiviral Particles: sc-77772-V as alternate gene silencing products.

For independent verification of Syntabulin (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-77772A, sc-77772B and sc-77772C.

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

Syntabulin siRNA (h) is recommended for the inhibition of Syntabulin 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 Syntabulin gene expression knockdown using RT-PCR Primer: Syntabulin (h)-PR: sc-77772-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.