SANTA CRUZ BIOTECHNOLOGY, INC.

SEC22A siRNA (h): sc-78487

BACKGROUND

The *S. cerevisiae* protein Sec22p functions as a v-SNARE of transport vesicles and plays a role in both retrograde and anterograde vesicular transport between the Golgi and the endoplasmic reticulum. There are three mammalian homologs to Sec22p, namely SEC22A, SEC22B and SEC22C. SEC22A is a 307 amino acid protein that belongs to the synaptobrevin family and the SEC22 family of vesicle trafficking proteins. Localizing to endoplasmic reticulum, SEC22A is a multi-pass membrane protein that contains one longin domain. Amyotrophic lateral sclerosis (ALS) is caused by ALS2, a mutated protein that targets the SEC22A gene. The rat and yeast Sec22a proteins share 32% overall sequence identity. The SEC22A gene is conserved in chimpanzee, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 3q21.1.

REFERENCES

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7. Cheung, V.G., Nayak, R.R., Wang, I.X., Elwyn, S., Cousins, S.M., Morley, M. and Spielman, R.S. 2010. Polymorphic *cis*- and *trans*-regulation of human gene expression. PLoS Biol. 14 pii: e1000480.

CHROMOSOMAL LOCATION

Genetic locus: SEC22A (human) mapping to 3q21.1.

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

SEC22A 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 SEC22A shRNA Plasmid (h): sc-78487-SH and SEC22A shRNA (h) Lentiviral Particles: sc-78487-V as alternate gene silencing products.

For independent verification of SEC22A (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-78487A, sc-78487B and sc-78487C.

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

SEC22A siRNA (h) is recommended for the inhibition of SEC22A 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 SEC22A gene expression knockdown using RT-PCR Primer: SEC22A (h)-PR: sc-78487-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.