



# SEC22B siRNA (m): sc-153306

## 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 (ER). There are three mammalian homologs to Sec22p, namely SEC22A, SEC22B and SEC22C. SEC22B (SEC22 vesicle trafficking protein homolog B, *S. cerevisiae*), also known as SEC22L1 (SEC22 vesicle-trafficking protein-like 1) or ERS-24, is a single pass type IV membrane protein that belongs to the synaptobrevin family. SEC22B contains one v-SNARE coiled-coil homology domain and one longin domain. Localizing to the ER-Golgi intermediate compartment and found on ER-derived vesicles, SEC22B functions as a v-SNARE and is required for ER-Golgi transport. The cognate t-SNARE found on pre-Golgi intermediate compartments is comprised of Syntaxin 5, Bet1 and GS27. In addition, SEC22B can be found in a SNARE complex with Syntaxin 18, Nip1 and USE1 (p31).

## REFERENCES

1. Zhang, T., et al. 1999. Morphological and functional association of SEC22B/ERS-24 with the pre-Golgi intermediate compartment. *Mol. Biol. Cell* 10: 435-453.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604029. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Kagan, J.C., et al. 2004. *Legionella* subvert the functions of Rab1 and Sec22b to create a replicative organelle. *J. Exp. Med.* 199: 1201-1211.
4. Joglekar, A.P. and Hay, J.C. 2005. Evidence for regulation of ER/Golgi SNARE complex formation by hsc70 chaperones. *Eur. J. Cell Biol.* 84: 529-542.

## CHROMOSOMAL LOCATION

Genetic locus: Sec22b (mouse) mapping to 3 F2.2.

## PRODUCT

SEC22B 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 SEC22B shRNA Plasmid (m): sc-153306-SH and SEC22B shRNA (m) Lentiviral Particles: sc-153306-V as alternate gene silencing products.

For independent verification of SEC22B (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-153306A, sc-153306B and sc-153306C.

## 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

SEC22B siRNA (m) is recommended for the inhibition of SEC22B 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.

## GENE EXPRESSION MONITORING

SEC22B (29-F7): sc-101267 is recommended as a control antibody for monitoring of SEC22B gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\lambda$  BP-HRP: sc-516132 or m-IgG $\lambda$  BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\lambda$  BP-FITC: sc-516185 or m-IgG $\lambda$  BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SEC22B gene expression knockdown using RT-PCR Primer: SEC22B (m)-PR: sc-153306-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Canton, J., et al. 2012. Disruption of the fusion of *Leishmania parasitophorous* vacuoles with ER vesicles results in the control of the infection. *Cell. Microbiol.* 14: 937-948.
2. Criado Santos, N., et al. 2023. Sec22b regulates phagosome maturation by promoting ORP8-mediated lipid exchange at endoplasmic reticulum-phagosome contact sites. *Commun. Biol.* 6: 1008.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.