

SEC23A siRNA (m): sc-153308

BACKGROUND

COPII-coated vesicles form on the endoplasmic reticulum by the stepwise recruitment of three cytosolic components: Sar1-GTP to initiate coat formation, SEC23/24 heterodimer to select SNARE and cargo molecules and SEC13/31 to induce coat polymerization and membrane deformation. SEC23A is the functional human counterpart of the yeast COPII component SEC23p, which suggests that it plays a similar role in mammalian protein export from the ER. Both SEC23 isoforms (SEC23A and SEC23B) have a molecular mass of 85 kDa. Mouse SEC23 is most abundant in brain and fibroblasts.

REFERENCES

1. Ruohola, H., et al. 1988. Reconstitution of protein transport from the endoplasmic reticulum to the Golgi complex in yeast: the acceptor Golgi compartment is defective in the SEC23 mutant. *J. Cell. Biol.* 107: 1465-1476.
2. Wadhwa, R., et al. 1993. Identification and differential expression of yeast SEC23-related gene (Msec23) in mouse tissues. *FEBS Lett.* 315: 193-196.
3. Paccaud, J.P., et al. 1996. Cloning and functional characterization of mammalian homologs of the COPII component SEC23. *Mol. Biol. Cell* 7: 1535-1546.
4. Weidler, M., et al. 2000. Structure of the cytoplasmic domain of p23 in solution: implications for the formation of COPI vesicles. *Biochem. Biophys. Res. Commun.* 271: 401-408.
5. Botelho, R.J., et al. 2000. Role of COPI in phagosome maturation. *J. Biol. Chem.* 275: 15717-15727.
6. Bi, X., et al. 2002. Structure of the SEC23/24-Sar1 pre-budding complex of the COPII vesicle coat. *Nature* 419: 271-277.

CHROMOSOMAL LOCATION

Genetic locus: Sec23a (mouse) mapping to 12 C1.

PRODUCT

SEC23A 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SEC23A shRNA Plasmid (m): sc-153308-SH and SEC23A shRNA (m) Lentiviral Particles: sc-153308-V as alternate gene silencing products.

For independent verification of SEC23A (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-153308A, sc-153308B and sc-153308C.

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

APPLICATIONS

SEC23A siRNA (m) is recommended for the inhibition of SEC23A 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 μ M in 66 μ 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 SEC23A gene expression knockdown using RT-PCR Primer: SEC23A (m)-PR: sc-153308-PR (20 μ 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.

PROTOCOLS

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