SANTA CRUZ BIOTECHNOLOGY, INC.

# COG3 siRNA (m): sc-142452

## BACKGROUND

COG3 is a member of a highly conserved multi-subunit oligomeric Golgi complex that is required for normal Golgi morphology and cellular localization. The oligomeric Golgi complex is integrated into the peripheral membrane of *cis*/medial Golgi cisternae. COG3 is a ubiquitous protein with highest expression found in pancreas and testis and lowest in lung. The complex is believed to act as a vesicle tethering element during intra-Golgi protein trafficking. Malfunctions in this complex can manifest as protein sorting disorders, glycosylation errors and Golgi disintegration. As such, COG3 and other members of the conserved oligomeric Golgi complex play an important role in proper functioning and localizing of resident Golgi glycosyltransferases and glycosidases.

## REFERENCES


1. Whyte, J.R., et al. 2001. The Sec34/35 Golgi transport complex is related to the exocyst, defining a family of complexes involved in multiple steps of membrane traffic. Dev. Cell 1: 527-537.
2. Suvorova, E.S., et al. 2001. Identification of a human orthologue of Sec34p as a component of the *cis*-Golgi vesicle tethering machinery. J. Biol. Chem. 276: 22810-22818.
3. Loh, E., et al. 2002. Sec34 is implicated in traffic from the endoplasmic reticulum to the Golgi and exists in a complex with GTC-90 and ldlBp. J. Biol. Chem. 277: 21955-21961.
4. Ungar, D., et al. 2002. Characterization of a mammalian Golgi-localized protein complex, COG, that is required for normal Golgi morphology and function. J. Cell Biol. 157: 405-415.
5. Ungar, D., et al. 2005. Subunit architecture of the conserved oligomeric Golgi complex. J. Biol. Chem. 280: 32729-32735.
6. Zolov, S.N., et al. 2005. Cog3p depletion blocks vesicle-mediated Golgi retrograde trafficking in HeLa cells. J. Cell Biol. 168: 747-759.
7. Shestakova, A., et al. 2006. COG complex-mediated recycling of Golgi glycosyltransferases is essential for normal protein glycosylation. Traffic 7: 191-204.


## CHROMOSOMAL LOCATION

Genetic locus: Cog3 (mouse) mapping to 14 D3.

## PRODUCT

COG3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see COG3 shRNA Plasmid (m): sc-142452-SH and COG3 shRNA (m) Lentiviral Particles: sc-142452-V as alternate gene silencing products.

For independent verification of COG3 (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-142452A, sc-142452B and sc-142452C.

## RESEARCH USE

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

## 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

COG3 siRNA (m) is recommended for the inhibition of COG3 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 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 COG3 gene expression knockdown using RT-PCR Primer: COG3 (m)-PR: sc-142452-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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