

COG3 (N-18): sc-84068

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

- Whyte, J.R. and Munro, S. 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.
- Suvorova, E.S., Kurten, R.C. and Lupashin, V.V. 2001. Identification of a human orthologue of Sec34p as a component of the *cis*-Golgi vesicle tethering machinery. *J. Biol. Chem.* 276: 22810-22818.
- Loh, E. and Hong, W. 2002. Sec34 is implicated in traffic from the endoplasmic reticulum to the Golgi and exists in a complex with GTC-90 and IdlBp. *J. Biol. Chem.* 277: 21955-21961.
- Ungar, D., Oka, T., Brittle, E.E., Vasile, E., Lupashin, V.V., Chatterton, J.E., Heuser, J.E., Krieger, M. and Waters, M.G. 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.
- Ungar, D., Oka, T., Vasile, E., Krieger, M. and Hughson, F.M. 2005. Subunit architecture of the conserved oligomeric Golgi complex. *J. Biol. Chem.* 280: 32729-32735.
- Zolov, S.N. and Lupashin, V.V. 2005. Cog3p depletion blocks vesicle-mediated Golgi retrograde trafficking in HeLa cells. *J. Cell Biol.* 168: 747-759.
- Shestakova, A., Zolov, S. and Lupashin, V. 2006. COG complex-mediated recycling of Golgi glycosyltransferases is essential for normal protein glycosylation. *Traffic* 7: 191-204.
- Shestakova, A., Suvorova, E., Pavliv, O., Khaidakova, G. and Lupashin, V. 2007. Interaction of the conserved oligomeric Golgi complex with t-SNARE Syntaxin 5a/Sed5 enhances intra-Golgi SNARE complex stability. *J. Cell Biol.* 179: 1179-1192.
- Sun, Y., Shestakova, A., Hunt, L., Sehgal, S., Lupashin, V. and Storrer, B. 2007. Rab6 regulates both ZW10/RINT-1 and conserved oligomeric Golgi complex-dependent Golgi trafficking and homeostasis. *Mol. Biol. Cell* 18: 4129-4142.

CHROMOSOMAL LOCATION

Genetic locus: COG3 (human) mapping to 13q14.13; Cog3 (mouse) mapping to 14 D3.

SOURCE

COG3 (N-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of COG3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COG3 (N-18) is recommended for detection of COG3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

COG3 (N-18) is also recommended for detection of COG3 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for COG3 siRNA (h): sc-105223, COG3 siRNA (m): sc-142452, COG3 shRNA Plasmid (h): sc-105223-SH, COG3 shRNA Plasmid (m): sc-142452-SH, COG3 shRNA (h) Lentiviral Particles: sc-105223-V and COG3 shRNA (m) Lentiviral Particles: sc-142452-V.

Molecular Weight of COG3: 94 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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