

# COG4 (I-18): sc-242491

## BACKGROUND

The structure and function of the Golgi apparatus is controlled by a number of multi-protein complexes that are involved in glycosylation reactions and vesicular transport. The conserved oligomeric Golgi (COG) complex consists of three subcomplexes, termed LDLC, SEC34 and GTT (Golgi transport complex), all of which contain proteins necessary for proper Golgi operation. COG4 (component of oligomeric Golgi complex 4), also known as COD1 or conserved oligomeric Golgi complex subunit 4, is a 785 amino acid peripheral membrane protein that localizes to the cytoplasmic side of the Golgi apparatus membrane. Existing as three alternatively spliced isoforms, COG4 is essential for normal Golgi function and defects in its gene are associated with congenital disorder of glycosylation type IIj.

## 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.
- 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.
- Laufman, O., et al. 2009. Direct interaction between the COG complex and the SM protein, Sly1, is required for Golgi SNARE pairing. *EMBO J.* 28: 2006-2017.
- Reynders, E., et al. 2009. Golgi function and dysfunction in the first COG4-deficient CDG type II patient. *Hum. Mol. Genet.* 18: 3244-3256.
- Richardson, B.C., et al. 2009. Structural basis for a human glycosylation disorder caused by mutation of the COG4 gene. *Proc. Natl. Acad. Sci. USA* 106: 13329-13334.
- Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 606976. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: COG4 (human) mapping to 16q22.1; Cog4 (mouse) mapping to 8 E1.

## SOURCE

COG4 (I-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of COG4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-242491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

COG4 (I-18) is recommended for detection of COG4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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); non cross-reactive with other COG family members.

COG4 (I-18) is also recommended for detection of COG4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for COG4 siRNA (h): sc-93069, COG4 siRNA (m): sc-142453, COG4 shRNA Plasmid (h): sc-93069-SH, COG4 shRNA Plasmid (m): sc-142453-SH, COG4 shRNA (h) Lentiviral Particles: sc-93069-V and COG4 shRNA (m) Lentiviral Particles: sc-142453-V.

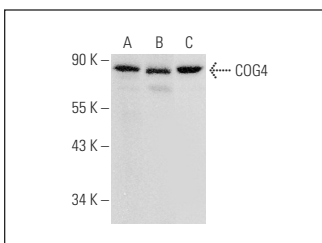
Molecular Weight of COG4: 89 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or HEK293 whole cell lysate: sc-45136.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



COG4 (I-18): sc-242491. Western blot analysis of COG4 expression in HeLa (A), K-562 (B) and HEK293 (C) whole cell lysates.

## 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) or our catalog for detailed protocols and support products.