

COG5 (E-14): sc-162695

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. COG5 (component of oligomeric Golgi complex 5), also known as GTC90 or GOLTC1, is an 839 amino acid protein that localizes to both the cytosol and the Golgi and exists as a component of the COG complex, thereby playing an essential role in proper Golgi function. Multiple isoforms of COG5 exist due to alternative splicing events. The gene encoding COG5 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Walter, D.M., et al. 1998. Purification and characterization of a novel 13 S hetero-oligomeric protein complex that stimulates *in vitro* Golgi transport. *J. Biol. Chem.* 273: 29565-29576.
2. Chen, X., et al. 2000. The familial mediterranean fever protein interacts and colocalizes with a putative Golgi transporter. *Proc. Soc. Exp. Biol. Med.* 224: 32-40.
3. 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.
4. 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 IdlBp. *J. Biol. Chem.* 277: 21955-21961.
5. 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.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606821. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Loh, E., et al. 2004. The binary interacting network of the conserved oligomeric Golgi tethering complex. *J. Biol. Chem.* 279: 24640-24648.

CHROMOSOMAL LOCATION

Genetic locus: COG5 (human) mapping to 7q22.3; Cog5 (mouse) mapping to 12 A3.

SOURCE

COG5 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of COG5 of human origin.

STORAGE

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

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-162695 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COG5 (E-14) is recommended for detection of COG5 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.

COG5 (E-14) is also recommended for detection of COG5 in additional species, including equine, canine and avian.

Suitable for use as control antibody for COG5 siRNA (h): sc-89504, COG5 shRNA Plasmid (h): sc-89504-SH and COG5 shRNA (h) Lentiviral Particles: sc-89504-V.

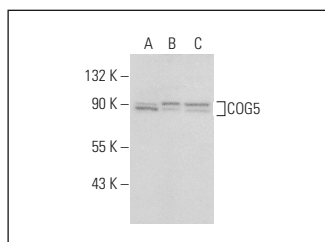
Molecular Weight of COG5: 90 kDa.

Positive Controls: Ramos cell lysate: sc-2216, THP-1 cell lysate: sc-2238 or Jurkat whole cell lysate: sc-2204.

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



COG5 (E-14): sc-162695. Western blot analysis of COG5 expression in Ramos (A), THP-1 (B) and Jurkat (C) whole cell lysates.

RESEARCH USE

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