SANTA CRUZ BIOTECHNOLOGY, INC.

COG7 (L-06): sc-101279

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. COG7 (conserved oligomeric Golgi complex component 7), also known as CDG2E, is a 770 amino acid peripheral membrane protein. One of several members of the COG complex, COG7 is necessary for normal golgi function, namely maintaining Golgi structure and mediating vesicle docking and fusion. Defects in the gene encoding COG7 are the cause of congenital disorder of glycosylation type 2E (CDG2E), an inherited defect in N-glycosylation that results in underglycosylated serum proteins and is characterized by psychomotor retardation, hypotonia, coagulation disorders and immunodeficiency.

REFERENCES

1. 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.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606978. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Wu, X., et al. 2004. Mutation of the COG complex subunit gene COG7 causes a lethal congenital disorder. Nat. Med. 10: 518-523.
4. Oka, T., et al. 2005. Genetic analysis of the subunit organization and function of the conserved oligomeric Golgi (COG) complex: studies of COG5- and COG7-deficient mammalian cells. J. Biol. Chem. 280: 32736-32745.
5. Steet, R. and Kornfeld, S. 2006. COG-7-deficient human fibroblasts exhibit altered recycling of Golgi proteins. Mol. Biol. Cell 17: 2312-2321.
6. Shestakova, A., et al. 2006. COG complex-mediated recycling of Golgi glycosyltransferases is essential for normal protein glycosylation. Traffic 7: 191-204.
7. Morava, E., et al. 2007. A common mutation in the COG7 gene with a consistent phenotype including microcephaly, adducted thumbs, growth retardation, VSD and episodes of hyperthermia. Eur. J. Hum. Genet. 15: 638-645.

CHROMOSOMAL LOCATION

Genetic locus: COG7 (human) mapping to 16p12.2.

SOURCE

COG7 (L-06) is a mouse monoclonal antibody raised against recombinant COG7 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COG7 (L-06) is recommended for detection of COG7 of 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).

Suitable for use as control antibody for COG7 siRNA (h): sc-93523, COG7 shRNA Plasmid (h): sc-93523-SH and COG7 shRNA (h) Lentiviral Particles: sc-93523-V.

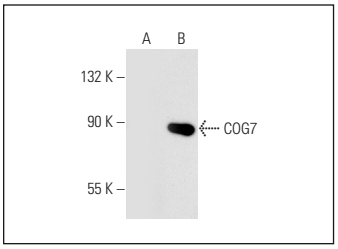
Molecular Weight of COG7: 86 kDa.

Positive Controls: COG7 (h): 293T Lysate: sc-114931.

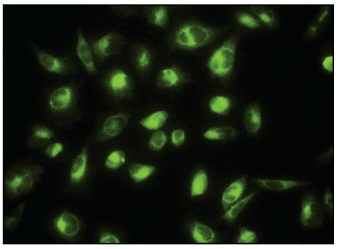
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



COG7 (L-06): sc-101279. Western blot analysis of COG7 expression in non-transfected: sc-117752 (**A**) and human COG7 transfected: sc-114931 (**B**) 293T whole cell lysates.



COG7 (L-06): sc-101279. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization.

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 for detailed protocols and support products.