SANTA CRUZ BIOTECHNOLOGY, INC.

COG7 (E-15): sc-164081

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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 under-glycosylated 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.
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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 16p12.1; Cog7 (mouse) mapping to 7 F2.

SOURCE

COG7 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of COG7 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-164081 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COG7 (E-15) is recommended for detection of COG7 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); non cross-reactive with other COG family members.

COG7 (E-15) is also recommended for detection of COG7 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for COG7 siRNA (h): sc-93523, COG7 siRNA (m): sc-142455, COG7 shRNA Plasmid (h): sc-93523-SH, COG7 shRNA Plasmid (m): sc-142455-SH, COG7 shRNA (h) Lentiviral Particles: sc-93523-V and COG7 shRNA (m) Lentiviral Particles: sc-142455-V.

Molecular Weight of COG7: 86 kDa.

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) 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.

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.