SANTA CRUZ BIOTECHNOLOGY, INC.

COG1 (N-13): sc-164079

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The Power to Question

BACKGROUND

COG1 (conserved oligomeric Golgi complex subunit 1) is a 980 amino acid protein that is a component of a complex that is required for normal function of the Golgi apparatus. Localized to the cytosolic side of the Golgi membrane, the COG peripheral membrane complex influences Golgi morphology and localization and may also act as a retrograde vesicle tethering factor in intra-Golgi trafficking. Protein components of the COG complex consist of COG1-8 and are distributed into two lobes, Lobe A and Lobe B. Mutations and malfunction of the complex are interfere with glycosylation, protein sorting and Golgi integrity. Specifically, defects in the gene encoding COG1 are the cause of congenital disorder of glycosylation type 2G, an inherited disease caused by a defect in glycoprotein biosynthesis leading to under-glycosylated serum glycoproteins. Clinical features of this multisystem disease include immunodeficiency, dysmorphic features, coagulation disorders, psycomotor retardation and hypotonia.

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. Park, D.H., et al. 2003. The *Arabidopsis* COG1 gene encodes a Dof domain transcription factor and negatively regulates phytochrome signaling. Plant J. 34: 161-171.
3. Vasile, E., et al. 2006. IntraGolgi distribution of the conserved oligomeric Golgi (COG) complex. Exp. Cell Res. 312: 3132-3141.
4. Foulquier, F., et al. 2006. Conserved oligomeric Golgi complex subunit 1 deficiency reveals a previously uncharacterized congenital disorder of glycosylation type II. Proc. Natl. Acad. Sci. USA 103: 3764-3769.
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7. Foulquier, F. 2009. COG defects, birth and rise! Biochim. Biophys. Acta 1792: 896-902.
8. Zeevaert, R., et al. 2009. Cerebrocostomandibular-like syndrome and a mutation in the conserved oligomeric Golgi complex, subunit 1. Hum. Mol. Genet. 18: 517-524.

CHROMOSOMAL LOCATION

Genetic locus: COG1 (human) mapping to 17q25.1; Cog1 (mouse) mapping to 11 E2.

SOURCE

COG1 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of COG1 of human origin.

RESEARCH USE

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

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-164079 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COG1 (N-13) is recommended for detection of COG1 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.

COG1 (N-13) is also recommended for detection of COG1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for COG1 siRNA (h): sc-94018, COG1 siRNA (m): sc-142450, COG1 shRNA Plasmid (h): sc-94018-SH, COG1 shRNA Plasmid (m): sc-142450-SH, COG1 shRNA (h) Lentiviral Particles: sc-94018-V and COG1 shRNA (m) Lentiviral Particles: sc-142450-V.

Molecular Weight of COG1: 109 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.

STORAGE

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

PROTOCOLS

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