SANTA CRUZ BIOTECHNOLOGY, INC.

COG1 (44): sc-136179

SANTA CRUZ BIOTECHNOLOGY

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-Glogi trafficking. Protein components of the COG complex consist of COG1-8 and are distributed into two lobes, Lobe A and Lobe B. Mutations and mal-function 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 immuno-deficiency, dysmorphic features, coagulation disorders, psycomotor retardation and hypotonia.

REFERENCES

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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.
5. Smith, R.D. and Lupashin, V.V. 2008. Role of the conserved oligomeric Golgi (COG) complex in protein glycosylation. Carbohydr. Res. 343: 2024-2031.
6. Zeevaert, R., et al. 2008. Deficiencies in subunits of the conserved oligomeric Golgi (COG) complex define a novel group of congenital disor-ders of glycosylation. Mol. Genet. Metab. 93: 15-21.
7. Foulquier, F. 2009. COG defects, birth and rise! Biochim. Biophys. Acta 1792: 896-902.
8. Zeevaert, R., et al. 2009. Cerebro-costomandibular-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 (44) is a mouse monoclonal antibody raised against amino acids 38-246 of COG1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COG1 (44) is recommended for detection of COG1 of mouse, rat, human and canine 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

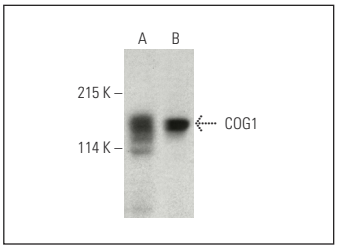
Molecular Weight of COG1: 109 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or LADMAC whole cell lysate: sc-364189.

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) Immunopre-cipitation: 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



COG1 (44): sc-136179. Western blot analysis of COG1 expression in Hep G2 (**A**) and LADMAC (**B**) whole cell lysates.

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. Not for resale.