

# γ2-COP (A-13): sc-23203

## BACKGROUND

In eukaryotes, membrane and vesicular trafficking in the early secretory pathway are mediated by non-clathrin COP (coat protein) I-coated vesicles. The COP I protein (also designated coatomer) is composed of seven subunits, designated COPA, COPB, β-COP, COPG, COPD, COPE and COPZ. COP I binds both to the dilysine motif of resident membrane proteins of the endoplasmic reticulum and to the cytoplasmic domain of p23, a membrane protein of COPI vesicles. This binding is exclusively mediated by COPG. COPG exists as two distinct isoforms, COPG (also known as γ1-COP) and γ2-COP. γ2-COP is ubiquitously transcribed in fetal and adult tissues. In fetal tissues, including skeletal muscle, skin, kidney, adrenal gland, placenta, intestine, lung, chorionic plate and amnion, γ2-COP is imprinted and expressed from the paternal allele. In contrast, it is biallelically expressed in fetal brain and liver and in adult peripheral blood. Both COPG and γ2-COP can directly interact with COPZ1 and COPZ2 and can also form a complex with COPB *in vivo*, which interacts with the cytoplasmic domain of p23. γ2-COP can form a COP I-like complex, which is functionally redundant to COP I complex.

## REFERENCES

1. Stenbeck, G., Schreiner, R., Herrmann, D., Auerbach, S., Lottspeich, F., Rothman, J.E. and Wieland, F.T. 1992. γ-COP, a coat subunit of non-clathrin-coated vesicles with homology to Sec21p. *FEBS Lett.* 314: 195-198.
2. Lowe, M. and Kreis, T.E. 1995. *In vitro* assembly and disassembly of coatomer. *J. Biol. Chem.* 270: 31364-31371.
3. Harter, C. and Wieland, F.T. 1998. A single binding site for dilysine retrieval motifs and p23 within the γ subunit of coatomer. *Proc. Natl. Acad. Sci. USA* 95: 11649-11654.
4. Glagitko, N., Schulz U., Schinzel, A.A., Ropers, H.H. and Kalscheurer, V.M. 1999. γ2-COP, a novel imprinted gene on chromosome 7q32, defines a new imprinting cluster in the human genome. *Hum. Mol. Genet.* 8: 2387-2396.
5. Contreiras I., Ortiz-Zapater, E., Castilho, L.M. and Aniento, F. 2000. Characterization of Cop I coat proteins in plant cells. *Biochem. Biophys. Res. Commun.* 273: 76-82.

## CHROMOSOMAL LOCATION

Genetic locus: COPG2 (human) mapping to 7q32.2; Copg2 (mouse) mapping to 6 A3.3.

## SOURCE

γ2-COP (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of γ2-COP of human origin.

## 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-23203 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

γ2-COP (A-13) is recommended for detection of γ2-COP 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).

γ2-COP (A-13) is also recommended for detection of γ2-COP in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for γ2-COP siRNA (h): sc-41204, γ2-COP siRNA (m): sc-41205, γ2-COP shRNA Plasmid (h): sc-41204-SH, γ2-COP shRNA Plasmid (m): sc-41205-SH, γ2-COP shRNA (h) Lentiviral Particles: sc-41204-V and γ2-COP shRNA (m) Lentiviral Particles: sc-41205-V.

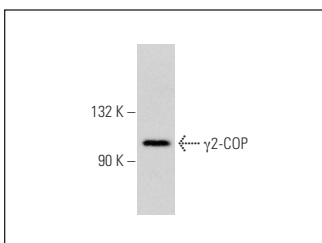
Molecular Weight of γ2-COP: 95 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, MM-142 cell lysate: sc-2246 or NIH/3T3 whole cell lysate: sc-2210.

## 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



γ2-COP (A-13): sc-23203. Western blot analysis of γ2-COP expression in NIH/3T3 whole cell lysate.

## 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.