SANTA CRUZ BIOTECHNOLOGY, INC.

# COPG (A-10): sc-393977

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Membrane and vesicular trafficking in the early secretory pathway are mediated by non-Clathrin COP (coat protein) I-coated vesicles. COPI-coated vesicles mediate retrograde transport from the Golgi back to the ER and intra-Golgi transport. The cytosolic precursor of the COPI coat, the heptameric coatomer complex, is composed of two subcomplexes. The first consists of the COPB, COPG, COPD and COPZ subunits (also known as β-, γ-, δ- and ζ-COP, respectively), which are distantly homologous to AP Clathrin adaptor subunits. The second consists of the COPA, β'-COP and COPE subunits (also known as α-COP, COPP and ε-COP, respectively). The COPG (γ-COP) subunit of the coatomer is believed to mediate the binding to the cytoplasmic dilysine motifs of membrane proteins. COPG has the highest level of expression in mouse testis and is expressed in a parent-of-origin-specific manner in mammals.

## REFERENCES


1. Stenbeck, G., et al. 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.


## CHROMOSOMAL LOCATION

Genetic locus: COPG1 (human) mapping to 3q21.3; Copg1 (mouse) mapping to 6 D1.

## SOURCE

COPG (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 849-874 at the C-terminus of COPG of mouse origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COPG (A-10) is available conjugated to agarose (sc-393977 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393977 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393977 PE), fluorescein (sc-393977 FITC), Alexa Fluor® 488 (sc-393977 AF488), Alexa Fluor® 546 (sc-393977 AF546), Alexa Fluor® 594 (sc-393977 AF594) or Alexa Fluor® 647 (sc-393977 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393977 AF680) or Alexa Fluor® 790 (sc-393977 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393977 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).



## STORAGE

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

## APPLICATIONS

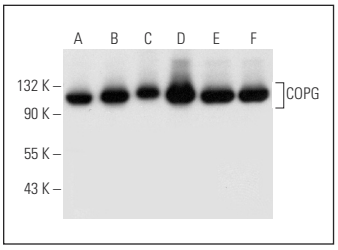
COPG (A-10) is recommended for detection of COPG of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 COPG siRNA (h): sc-37254, COPG siRNA (m): sc-35092, COPG shRNA Plasmid (h): sc-37254-SH, COPG shRNA Plasmid (m): sc-35092-SH, COPG shRNA (h) Lentiviral Particles: sc-37254-V and COPG shRNA (m) Lentiviral Particles: sc-35092-V.

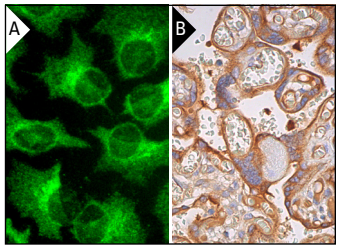
Molecular Weight of COPG: 97 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, 3T3-L1 cell lysate: sc-2243 or K-562 whole cell lysate: sc-2203.

## DATA




COPG (A-10): sc-393977. Western blot analysis of COPG expression in K-562 (**A**), KNRK (**B**), 3T3-L1 (**C**), Sol8 (**D**), RT-4 (**E**) and U-251-MG (**F**) whole cell lysates.




COPG (A-10): sc-393977. Immunofluorescence staining of methanol-fixed HeLa cells showing Golgi apparatus and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

## SELECT PRODUCT CITATIONS


1. García-Hernández, V., et al. 2018. A tandem mass tag (TMT) proteomic analysis during the early phase of experimental pancreatitis reveals new insights in the disease pathogenesis. J. Proteomics 181: 190-200.
2. Miyamoto, Y., et al. 2018. BIG1/Arfgef1 and Arf1 regulate the initiation of myelination by Schwann cells in mice. Sci. Adv. 4: eaar4471.
3. Tie, H.C., et al. 2018. The spatial separation of processing and transport functions to the interior and periphery of the Golgi stack. Elife 7: e41301.
4. Cox, N.J., et al. 2018. A novel glycoproteomics workflow reveals dynamic O-glcNAcylation of COPγ1 as a candidate regulator of protein trafficking. Front. Endocrinol. 9: 606.
5. Steiner, A., et al. 2022. Deficiency in coatomer complex I causes aberrant activation of STING signalling. Nat. Commun. 13: 2321.
6. Tie, H.C., et al. 2022. Visualizing intra-Golgi localization and transport by side-averaging Golgi ministacks. J. Cell Biol. 221: e202109114.


## RESEARCH USE

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