SANTA CRUZ BIOTECHNOLOGY, INC.

COPG (H-4): sc-271362

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 dissembly of coatomer. J. Biol. Chem. 270: 31364-31371.
3. Harter, C., et al. 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. Futatsumori, M., et al. 2000. Identification and characterization of novel isoforms of COP I subunits. J. Biochem. 128: 793-801.
5. Hahn, Y., et al. 2000. Duplication of genes encoding non-Clathrin coat protein γ-COP in vertebrate, insect and plant evolution. FEBS Lett. 482: 31-36.
6. Bermak, J.C., et al. 2002. Interaction of γ-COP with a transport motif in the D1 receptor C-terminus. Eur. J. Cell Biol. 81: 77-85.

CHROMOSOMAL LOCATION

Genetic locus: COPG1 (human) mapping to 3q21.3, COPG2 (human) mapping to 7q32.2; Copg1 (mouse) mapping to 6 D1, Copg2 (mouse) mapping to 6 A3.3.

SOURCE

COPG (H-4) is a mouse monoclonal antibody raised against amino acids 575-874 mapping at the C-terminus of COPG of human 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 (H-4) is available conjugated to agarose (sc-271362 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271362 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271362 PE), fluorescein (sc-271362 FITC), Alexa Fluor® 488 (sc-271362 AF488), Alexa Fluor® 546 (sc-271362 AF546), Alexa Fluor® 594 (sc-271362 AF594) or Alexa Fluor® 647 (sc-271362 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271362 AF680) or Alexa Fluor® 790 (sc-271362 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

COPG (H-4) is recommended for detection of COPG and 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).

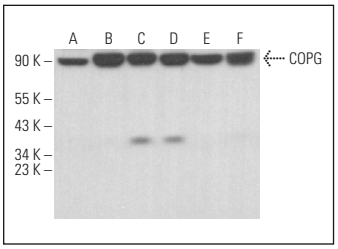
Molecular Weight of COPG: 97 kDa.

Positive Controls: A-10 cell lysate: sc-3806, NIH/3T3 whole cell lysate: sc-2210 or L6 whole cell lysate: sc-364196.

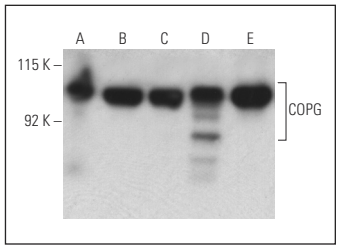
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: 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



COPG (H-4): sc-271362. Western blot analysis of COPG expression in HEL 92.1.7 (**A**), C2C12 (**B**), A-10 (**C**), L6 (**D**), A-673 (**E**) and WEHI-231 (**F**) whole cell lysates.



COPG (H-4): sc-271362. Western blot analysis of COPG expression in HeLa (**A**), HEL 92.1.7 (**B**), A-673 (**C**), NIH/3T3 (**D**) and Sol8 (**E**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Li, C., et al. 2017. COPI-TRAPPII activates Rab18 and regulates its lipid droplet association. EMBO J. 36: 441-457.
2. Li, S., et al. 2022. ArfGAP3 regulates vesicle transport and glucose uptake in myoblasts. Cell. Signal. E-published.

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.