

COPB (D-9): sc-165975

BACKGROUND

Membrane and vesicular trafficking in the early secretory pathway are mediated by non-Clathrin COP (coat protein) I-coated vesicles. COPB (β -COP) is a marker protein for pre-Golgi intermediates (vesicular tubular clusters or VTCs). GIV ($G_{\alpha i/s}$ interacting protein) co-localizes with COPB and $G_{\alpha i3}$ on vesicles found in close proximity to ER exit sites and to *cis*-Golgi cisternae. Afadin DIL domain-interacting protein (ADIP) co-localizes with β '-COP (COPP) at the Golgi complex in Madin Darby canine kidney and normal rat kidney cells. Non-Clathrin-coated vesicles mediate membrane traffic through the Golgi complex. COPB is a major component of the coat of non-Clathrin-coated vesicles.

REFERENCES

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- Lowe, M. and Kreis, T.E. 1995. *In vitro* assembly and disassembly of coatomer. *J. Biol. Chem.* 270: 31364-31371.
- 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.
- Tisdale, E.J., et al. 2003. Atypical protein kinase C plays a critical role in protein transport from pre-Golgi intermediates. *J. Biol. Chem.* 278: 38015-38021.
- Cohen, M., et al. 2003. Deubiquitination, a new player in Golgi to endoplasmic reticulum retrograde transport. *J. Biol. Chem.* 278: 51989-51992.
- Asada, M., et al. 2004. Afadin- and α -actinin-binding protein ADIP directly binds β '-COP, a subunit of the coatomer complex. *Biochem. Biophys. Res. Commun.* 321: 350-354.
- Rybakin, V., et al. 2004. Coronin 7, the mammalian POD-1 homologue, localizes to the Golgi apparatus. *FEBS Lett.* 573: 161-167.
- Le-Niculescu, H., et al. 2005. Identification and characterization of GIV, a novel $G_{\alpha i/s}$ -interacting protein found on COPI, endoplasmic reticulum-Golgi transport vesicles. *J. Biol. Chem.* 280: 22012-22020.
- SWISS-PROT/TrEMBL (P48444). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.

CHROMOSOMAL LOCATION

Genetic locus: COPB1 (human) mapping to 11p15.2; Copb1 (mouse) mapping to 7 F1.

SOURCE

COPB (D-9) is a mouse monoclonal antibody raised against amino acids 654-953 mapping at the C-terminus of COPB of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COPB (D-9) is recommended for detection of COPB of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for COPB siRNA (h): sc-41196, COPB siRNA (m): sc-41197, COPB shRNA Plasmid (h): sc-41196-SH, COPB shRNA Plasmid (m): sc-41197-SH, COPB shRNA (h) Lentiviral Particles: sc-41196-V and COPB shRNA (m) Lentiviral Particles: sc-41197-V.

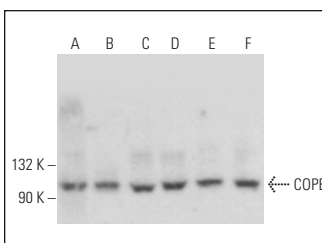
Molecular Weight of COPB: 110 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

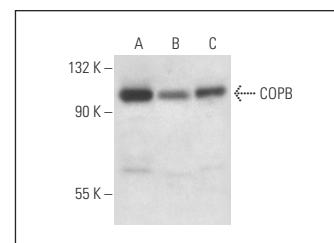
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



COPB (D-9): sc-165975. Western blot analysis of COPB expression in SP2/0 (A), Hep G2 (B), HUV-EC-C (C), NIH/3T3 (D), EOC 20 (E) and A-10 (F) whole cell lysates.



COPB (D-9): sc-165975. Western blot analysis of COPB expression in Hep G2 (A), C6 (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Sun, L., et al. 2015. Identification of proteins associated with Aha1 in HeLa cells by quantitative proteomics. *Biochim. Biophys. Acta* 1854: 365-380.

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.