SANTA CRUZ BIOTECHNOLOGY, INC.

COPB (Y-20): sc-13337

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. 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

1. Duden, R., et al. 1991. Involvement of β-COP in membrane traffic through the Golgi complex. Trends Cell Biol. 1: 14-19.
2. Lowe, M. and Kreis, T.E. 1995. *In vitro* assembly and dissembly 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. 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.
5. Cohen, M., et al. 2003. Deubiquitination, a new player in Golgi to endoplasmic reticulum retrograde transport. J. Biol. Chem. 278: 51989-51992.
6. 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.
7. Rybakin, V., et al. 2004. Coronin 7, the mammalian POD-1 homologue, localizes to the Golgi apparatus. FEBS Lett. 573: 161-167.
8. Le-Niculescu, H., et al. 2005. Identification and characterization of GIV, a novel $G_{\alpha\ i/s}$ interacting protein found on COPI, ER-Golgi transport vesicles. J. Biol. Chem. 280: 22012-22020.
9. SWISS-PROT/TrEMBL (P48444). World Wide Web URL: http://harvester.embl.de/harvester/P484/P48444.htm

CHROMOSOMAL LOCATION

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

SOURCE

COPB (Y-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of COPB of rat 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-13337 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COPB (Y-20) is recommended for detection of COPB of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

COPB (Y-20) is also recommended for detection of COPB in additional species, including equine, canine, bovine, porcine and avian.

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: mouse kidney extract: sc-2255.

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) 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.

SELECT PRODUCT CITATIONS

1. Pedram, A., et al. 2006. Nature of functional estrogen receptors at the plasma membrane. Mol. Endocrinol. 20: 1996-2009.
2. Wang, Z., et al. 2006. A variant of estrogen receptor-α, hERα36: transduction of estrogen- and antiestrogen-dependent membrane-initiated mitogenic signaling. Proc. Natl. Acad. Sci. USA 103: 9063-9068.

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.