SANTA CRUZ BIOTECHNOLOGY, INC.

COPB (D-10): sc-393615

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.

CHROMOSOMAL LOCATION

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

SOURCE

COPB (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-19 at the N-terminus of COPB of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COPB (D-10) is available conjugated to agarose (sc-393615 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393615 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393615 PE), fluorescein (sc-393615 FITC), Alexa Fluor® 488 (sc-393615 AF488), Alexa Fluor® 546 (sc-393615 AF546), Alexa Fluor® 594 (sc-393615 AF594) or Alexa Fluor® 647 (sc-393615 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393615 AF680) or Alexa Fluor® 790 (sc-393615 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393615 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

COPB (D-10) 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 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). COPB (D-10) 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.

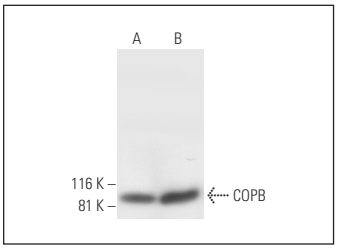
Molecular Weight of COPB: 110 kDa.

Positive Controls: C6 whole cell lysate: sc-364373.

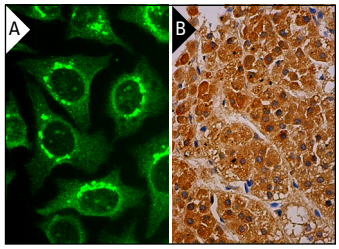
STORAGE

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

DATA



COPB (D-10): sc-393615. Western blot analysis of COPB expression in C6 (**A**) and Hep G2 (**B**) whole cell lysates.



COPB (D-10): sc-393615. Immunofluorescence staining of methanol-fixed HeLa cells showing Golgi apparatus and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Lee, Y.S., et al. 2016. Surface expression of the anoctamin-1 (ANO1) channel is suppressed by protein-protein interactions with β-COP. Biochem. Biophys. Res. Commun. 475: 216-222.
2. 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.
3. Miyamoto, Y., et al. 2018. BIG1/Arfgef1 and Arf1 regulate the initiation of myelination by Schwann cells in mice. Sci. Adv. 4: eaar4471.
4. Shiwarski, D.J., et al. 2019. Dual RXR motifs regulate nerve growth factor-mediated intracellular retention of the δ opioid receptor. Mol. Biol. Cell 30: 680-690.
5. Guo, R., et al. 2021. A swine arterivirus deubiquitinase stabilizes two major envelope proteins and promotes production of viral progeny. PLoS Pathog. 17: e1009403.
6. Kaeser-Pebernard, S., et al. 2022. mTORC1 controls Golgi architecture and vesicle secretion by phosphorylation of SCYL1. Nat. Commun. 13: 4685.
7. Kim, S.S., et al. 2022. β-COP regulates TWIK1/TREK1 heterodimeric channel-mediated passive conductance in astrocytes. Cells 11: 3322.
8. Tie, H.C., et al. 2022. Visualizing intra-Golgi localization and transport by side-averaging Golgi ministacks. J. Cell Biol. 221: e202109114.
9. Li, S., et al. 2022. ArfGAP3 regulates vesicle transport and glucose uptake in myoblasts. Cell. Signal. E-published.

RESEARCH USE

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