

γ 2-COP (S-21): sc-23204

BACKGROUND

In eukaryotes, membrane and vesicular trafficking in the early secretory pathway are mediated by non-clathrin COP (coat protein) I-coated vesicles. The COP I protein (also designated coatamer) is composed of seven subunits, α -, β -, β' -, γ -, δ -, ϵ -, and ζ -COPs (3-4). COP I binds both to the dilysine motif of resident membrane proteins of the endoplasmic reticulum and to the cytoplasmic domain of p23, a membrane protein of COPI vesicles. This binding is exclusively mediated by γ -COP (COPG). COPG exists as 2 distinct isoforms, γ 1-COP and γ 2-COP. γ 2-COP is ubiquitously transcribed in fetal and adult tissues. In fetal tissues, including skeletal muscle, skin, kidney, adrenal gland, placenta, intestine, lung, chorionic plate and amnion, γ 2-COP is imprinted and expressed from the paternal allele. In contrast, it is biallelically expressed in fetal brain and liver and in adult peripheral blood. Both γ 1- and γ 2-COPs can directly interact with ζ 1- and ζ 2-COPs and can also form a complex with β -COP *in vivo*, which interacts with the cytoplasmic domain of p23. γ 2-COP can form a COP I-like complex, which is functionally redundant to COP I complex.

REFERENCES

1. Stenbeck, G., et al. 1992. Gamma-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 coatamer. J. Bio. Chem. 270: 31364-31371.
3. Harter, C. and Wieland, F.T. 1998. A single binding site for dilysine retrieval motifs and p23 within the gamma subunit of coatamer. Proc. Natl. Acad. Sci. USA 95: 11649-11654.
4. Glagitko, N., et al. 1999. gamma2-COP, a novel imprinted gene on chromosome 7q32, defines a new imprinting cluster in the human genome. Hum. Mol. Genet. 8: 2387-2396.
5. Contrears I., et al. 2000. Characterization of Cop I coat proteins in plant cells. Biochem. Biophys. Res. Commun. 273: 76-82.

CHROMOSOMAL LOCATION

Genetic locus: COPG2 (human) mapping to 7q32.2; Copg2 (mouse) mapping to 6 A3.3.

SOURCE

γ 2-COP (S-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of γ 2-COP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-23204 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

γ 2-COP (S-21) is recommended for detection of γ 2-COP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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).

γ 2-COP (S-21) is also recommended for detection of γ 2-COP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for γ 2-COP siRNA (h): sc-41204, γ 2-COP siRNA (m): sc-41205, γ 2-COP shRNA Plasmid (h): sc-41204-SH, γ 2-COP shRNA Plasmid (m): sc-41205-SH, γ 2-COP shRNA (h) Lentiviral Particles: sc-41204-V and γ 2-COP shRNA (m) Lentiviral Particles: sc-41205-V.

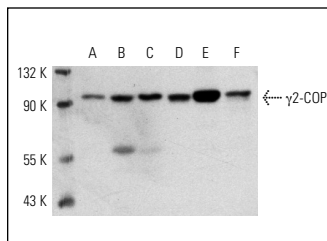
Molecular Weight of γ 2-COP: 95 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, γ 2-COP (h): 293T Lysate: sc-112076 or MOLT-4 cell lysate: sc-2233.

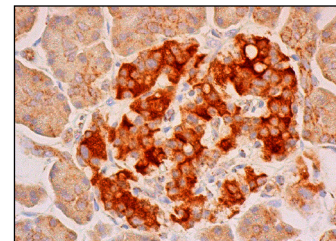
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



γ 2-COP (S-21): sc-23204. Western blot analysis of γ 2-COP expression in HeLa (A), MOLT-4 (B), K-562 (C), 3T3-L1 (D), KNRK (E) and NIH/3T3 (F) whole cell lysates.



γ 2-COP (S-21): sc-23204. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells and Islets of Langerhans.

RESEARCH USE

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