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beta COP Rabbit pAb

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Catalog # AP58533

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	P53618
Predicted	Human, Mouse, Rat, Chicken, Dog, Pig, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	107142
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human beta COP
Epitope Specificity	531-630/953
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Golgi apparatus membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasmic vesicle, COPI-coated vesicle membrane; Peripheral membrane protein; Cytoplasmic side. Cell membrane. Endoplasmic reticulum-Golgi intermediate compartment. Note=The coatomer is cytoplasmic or polymerized on the cytoplasmic side of the Golgi, as well as on the vesicles/buds originating from it. Proteolytic cleavage by CAPN8 triggers translocation from Golgi to cytoplasm (By similarity). Found in perinuclear vesicular-tubular clusters (VTCs) and in the Golgi region where associated with vesicles, buds and rims of the Golgi stack (By similarity). Occasionally present at the trans-side of Golgi, but mainly present at the cis-Golgi side in transitional areas (TA), on so-called peripheral elements (PE) consisting of tubules and vesicles located between the cup-shaped transitional elements (TE) of the rough endoplasmic reticulum (RER) and the cis-most Golgi cisternae (By similarity). Present in cytoplasm, not associated with visible coats or membranes, with a minor fraction present on small clusters of tubules and vesicles (By similarity). Some association with high-density and low-density microsomes and mitochondria/nuclei fraction (By similarity). Very little found in plasma membrane fraction (By similarity).
SIMILARITY	Contains 6 HEAT repeats.
SUBUNIT	Oligomeric complex that consists of at least the alpha, beta, beta', gamma, delta, epsilon and zeta subunits. Interacts (via C-terminus) with HIV-1 Nef; the interaction is direct. Interacts with SCYL1. Interacts with COPG1. Interacts (via trunk domain) with ARF1 (via switch I region); the interaction is direct. Interacts with KCNK2/TREK (via N-terminus); this interaction increases the channel-mediated whole cell currents and promotes plasma membrane expression of KCNK2/TREK. Interacts with anthrax lethal factor (LF); this interaction may facilitate endosomal vesicle membrane translocation of LF and its release from the lumen of endosomal vesicles to external milieu. Interacts with CAPN8 and PRKCE (By similarity). Interacts with ARF1 (myristoylated); this interaction is required for binding of COPB1 to Golgi membranes (By similarity).

Post-translational modifications	Proteolytically cleaved between Ser-528 and Ser-529 by CAPN8.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The Golgi complex is a key organelle where processing and sorting of newly synthesized proteins occurs. Membrane traffic from the endoplasmic reticulum (ER) to the Golgi complex and from the Golgi complex to the different final cellular destinations is believed to be mediated by carrier vesicles. Two populations of coated vesicles mediate biosynthetic membrane traffic between the different membrane-bound compartments. Clathrin-coated vesicles carry proteins to endocytic organelles and secretory granules, whilst non-clathrin-coated vesicles are involved in intra-Golgi transport and transport from the ER to the Golgi complex. Beta COP is a member of a set of protein which are believed to associate with the non-clathrin coated vesicles. Golgi-derived non-clathrin-coated vesicles are believed to act as bulk carriers, whereas clathrin-coated vesicles carry a selective cargo of membrane proteins.

Additional Information

Gene ID	1315
Other Names	Coatomer subunit beta, Beta-coat protein, Beta-COP {ECO:0000303|PubMed:7982906, ECO:0000303|Ref.1}, COPB1 (HGNC:2231), COPB
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	COPB1 (HGNC:2231)
Synonyms	COPB
Function	The coatomer is a cytosolic protein complex that binds to dilysine motifs and reversibly associates with Golgi non-clathrin- coated vesicles, which further mediate biosynthetic protein transport from the ER, via the Golgi up to the trans Golgi network. Coatomer complex is required for budding from Golgi membranes, and is essential for the retrograde Golgi-to-ER transport of dilysine-tagged proteins. In mammals, the coatomer can only be recruited by membranes associated to ADP-ribosylation factors (ARFs), which are small GTP-binding proteins; the complex also influences the Golgi structural integrity, as well as the processing, activity, and endocytic recycling of LDL receptors. Plays a functional role in facilitating the transport of kappa-type opioid receptor mRNAs into axons and enhances translation of these proteins. Required for limiting lipid storage in lipid droplets. Involved in lipid homeostasis by regulating the presence of perilipin family members PLIN2 and PLIN3 at the lipid droplet surface and promoting the association of adipocyte surface triglyceride lipase (PNPLA2) with the lipid droplet to mediate lipolysis (By similarity). Involved in the Golgi disassembly and reassembly processes during cell cycle. Involved in autophagy by playing a role in early endosome function. Plays a role in organellar

	compartmentalization of secretory compartments including endoplasmic reticulum (ER)-Golgi intermediate compartment (ERGIC), Golgi, trans-Golgi network (TGN) and recycling endosomes, and in biosynthetic transport of CAV1. Promotes degradation of Nef cellular targets CD4 and MHC class I antigens by facilitating their trafficking to degradative compartments.
Cellular Location	Cytoplasm. Golgi apparatus membrane; Peripheral membrane protein; Cytoplasmic side Cytoplasmic vesicle, COPI-coated vesicle membrane; Peripheral membrane protein; Cytoplasmic side. Cell membrane. Endoplasmic reticulum-Golgi intermediate compartment {ECO:0000250|UniProtKB:Q9JIF7}. Note=The coatomer is cytoplasmic or polymerized on the cytoplasmic side of the Golgi, as well as on the vesicles/buds originating from it (By similarity) Proteolytic cleavage by CAPN8 triggers translocation from Golgi to cytoplasm (By similarity). Found in perinuclear vesicular-tubular clusters (VTCs) and in the Golgi region where associated with vesicles, buds and rims of the Golgi stack (By similarity). Occasionally present at the trans-side of Golgi, but mainly present at the cis-Golgi side in transitional areas (TA), on so-called peripheral elements (PE) consisting of tubules and vesicles located between the cup-shaped transitional elements (TE) of the rough endoplasmic reticulum (RER) and the cis-most Golgi cisternae (By similarity). Present in cytoplasm, not associated with visible coats or membranes, with a minor fraction present on small clusters of tubules and vesicles (By similarity). Some association with high-density and low-density microsomes and mitochondria/nuclei fraction (By similarity). Very little found in plasma membrane fraction (PubMed:20362547) {ECO:0000250|UniProtKB:P23514, ECO:0000269|PubMed:20362547}

Background

The Golgi complex is a key organelle where processing and sorting of newly synthesized proteins occurs. Membrane traffic from the endoplasmic reticulum (ER) to the Golgi complex and from the Golgi complex to the different final cellular destinations is believed to be mediated by carrier vesicles. Two populations of coated vesicles mediate biosynthetic membrane traffic between the different membrane-bound compartments. Clathrin-coated vesicles carry proteins to endocytic organelles and secretory granules, whilst non-clathrin-coated vesicles are involved in intra-Golgi transport and transport from the ER to the Golgi complex. Beta COP is a member of a set of protein which are believed to associate with the non-clathrin coated vesicles. Golgi-derived non-clathrin-coated vesicles are believed to act as bulk carriers, whereas clathrin-coated vesicles carry a selective cargo of membrane proteins.