Recombinant COPB protein (His tag)

Catalog Number	537829
Synonyms	Beta-coat protein; Beta-COP
Species	Human
Expression System	E. coli
Accession	P53618
Molecular Weight	Predictes a molecular mass of 58.30 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 62 kDa band.

Product Information

Sequence Region	2-497
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 2-497 aa (P53618) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Coatomer Subunit Beta (Beta-COP) Fragment (residues 2-497) is a high-quality protein product designed for structural and functional studies. This fragment, derived from the COPB1 gene, represents a stable and soluble unit ideal for investigating the protein's role in intracellular vesicle trafficking, Golgi integrity, and lipid homeostasis. Coatomer subunit beta (Beta-COP), encoded by the COPB1 gene in humans, is a critical component of the coatomer complex. This cytosolic protein complex binds to dilysine motifs and reversibly associates with Golgi non-clathrin-coated vesicles, mediating biosynthetic protein transport from the endoplasmic reticulum (ER) through the Golgi apparatus to the trans-Golgi network. It is essential for vesicle budding from Golgi membranes and facilitates retrograde transport of dilysine-tagged proteins from the Golgi back to the ER. The coatomer's recruitment to membranes depends on ADP-ribosylation factors (ARFs) and influences Golgi structural integrity, LDL receptor processing, and endocytic recycling. Additionally, Beta-COP plays roles in facilitating axonal transport and translation of kappa-type opioid receptor mRNAs, limiting lipid storage in lipid droplets by regulating perilipin family members and promoting lipolysis, Golgi disassembly and reassembly during the cell cycle, autophagy via early endosome function, and organellar compartmentalization of secretory pathways. It also promotes degradation of CD4 and MHC class I antigens by trafficking them to degradative compartments. Subcellularly, Beta-COP is primarily located in the cytoplasm and associates with Golgi apparatus membranes, COPI-coated vesicles, the endoplasmic reticulum-Golgi intermediate compartment, and occasionally the cell membrane, functioning as a peripheral membrane protein on the cytoplasmic side.