Recombinant PI51A protein (His tag)

Catalog Number	545774
Synonyms	PIP5K1-alpha; PtdIns(4)P-5-kinase 1 alpha; 68 kDa type I phosphatidylinositol 4-phosphate 5-kinase alpha; Phosphatidylinositol 4-phosphate 5-kinase type I alpha; PIP5KIalpha
Species	Human
Expression System	E. coli
Accession	Q99755
Molecular Weight	Predictes a molecular mass of 33.06 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 33 kDa band.

Product Information

Sequence Region	65-338
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 65-338 aa (Q99755) 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 PIP5K1-alpha (65-338) is a high-quality, stable fragment of Phosphatidylinositol 4-phosphate 5-kinase type-1 alpha, designed for structural and biochemical studies. This 274-amino acid fragment retains key properties for investigating the enzyme's role in phosphoinositide signaling pathways, offering researchers a soluble and reliable tool for elucidating mechanisms in signal transduction, cytoskeleton dynamics, and cellular trafficking. Phosphatidylinositol 4-phosphate 5-kinase type-1 alpha (PIP5K1A) is a crucial human enzyme that catalyzes the phosphorylation of phosphatidylinositol 4-phosphate to generate phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2). This lipid second messenger regulates diverse cellular processes, including signal transduction, vesicle trafficking, actin cytoskeleton remodeling, cell adhesion, and motility. PIP5K1A serves as the primary pathway for PtdIns(4,5)P2 synthesis and also contributes to phagocytosis, platelet adhesion, insulin response, and keratinocyte differentiation. Beyond its catalytic function, it facilitates RAC1-mediated cell migration and, in the nucleus, activates TUT1 to influence mRNA polyadenylation. The enzyme localizes to the cell membrane, cytoplasm, nucleus, nuclear speckles, and cellular projections such as ruffles and lamellipodia, underscoring its multifaceted roles in cellular organization and signaling networks.