Recombinant IPMK protein (His tag)

Catalog Number	540801
Synonyms	Inositol 1,3,4,6-tetrakisphosphate 5-kinase
Species	Human
Expression System	E. coli
Accession	Q8NFU5
Molecular Weight	Predictes a molecular mass of 26.72 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 27 kDa band.

Product Information

Sequence Region	44-261
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 44-261 aa (Q8NFU5) 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 Inositol polyphosphate multikinase (IPMK) fragment (residues 44-261) is a high-quality protein product designed for structural and biochemical studies. This fragment represents a stable and soluble unit of the enzyme, which exhibits broad substrate specificity in phosphorylating key inositol phosphates and plays critical roles in cellular signaling and necroptosis. Inositol polyphosphate multikinase (IPMK) is a multifunctional enzyme from Homo sapiens with kinase activities (EC 2.7.1.140, EC 2.7.1.151, EC 2.7.1.153) and broad substrate specificity. It phosphorylates inositol 1,4,5-trisphosphate (Ins(1,4,5)P3) to inositol 1,3,4,5-tetrakisphosphate and subsequently to inositol 1,3,4,5,6-pentakisphosphate (Ins(1,3,4,5,6)P5), and also acts on inositol 1,3,4,6-tetrakisphosphate (Ins(1,3,4,6)P4), inositol 1,4,5,6-tetrakisphosphate (Ins(1,4,5,6)P4), and glycero-3-phospho-1D-myo-inositol 4,5-bisphosphate. IPMK is essential in MLKL-mediated necroptosis by biosynthesizing inositol pentakisphosphate (InsP5) and inositol hexakisphosphate (InsP6), which bind to MLKL to activate it, enabling oligomerization and membrane localization during cell death. It is also required for normal embryonic development, likely through its role in producing Ins(1,3,4,5,6)P5 and InsP6. The protein is primarily localized in the nucleus, underscoring its importance in nuclear signaling pathways.