Recombinant MARK4 protein (His tag)

Catalog Number	541026
Synonyms	MAP/microtubule affinity-regulating kinase-like 1
Species	Human
Expression System	E. coli
Accession	Q96L34
Molecular Weight	Predictes a molecular mass of 37.97 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 39 kDa band.

Product Information

Sequence Region	54-369
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 54-369 aa (Q96L34) 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 MARK4 Protein Fragment (aa 54-369) is a high-purity, functional fragment of the MAP/microtubule affinity-regulating kinase 4, encompassing its complete protein kinase and UBA domains. This product is an essential tool for researchers investigating microtubule dynamics, kinase signaling pathways, and cellular processes such as cilium assembly and metabolic regulation. MARK4 is a serine/threonine-protein kinase that phosphorylates microtubule-associated proteins including MAPT/TAU, MAP2, and MAP4, directly regulating microtubule network organization and bundling. It localizes to the cytoplasm, cytoskeleton, microtubule organizing center, centrosome, cilium basal body, and axoneme, and is detected in dendrites. The kinase plays critical roles in initiating axoneme extension during cilium assembly, regulating cell cycle progression at the G1/S checkpoint, and positioning NLRP3 at microtubule organizing centers during inflammasome activation. MARK4 also negatively regulates mTORC1 complex activity through RPTOR phosphorylation and influences energy homeostasis, adipogenesis, and apoptosis via JNK1 and p38MAPK pathways. Its involvement in neuronal cell survival and hippocampal function underscores its importance in neurological research.