Recombinant MAP6 protein (His tag)

Catalog Number	541016
Synonyms	MAP-6; Stable tubule-only polypeptide; STOP
Species	Human
Expression System	E. coli
Accession	Q96JE9
Molecular Weight	Predictes a molecular mass of 11.29 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 11 kDa band.

Product Information

Sequence Region	278-362
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 278-362 aa (Q96JE9) 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 Microtubule-associated protein 6 (MAP-6/STOP) Fragment (aa 278-362) is a highly stable and soluble protein fragment designed for structural and biochemical studies. This 85-amino acid fragment retains key properties ideal for investigating microtubule stabilization mechanisms and neuronal development processes. Microtubule-associated protein 6 (MAP-6), also known as Stable tubule-only polypeptide (STOP), plays crucial roles in microtubule stabilization across various cell types, including neuronal cells. The protein exhibits unique microtubule cold-stabilizing activity and is essential for proper dendrite morphogenesis and maintenance through regulation of lysosomal trafficking via interaction with TMEM106B. MAP-6 also regulates KIF5A-mediated axonal cargo transport and axonal growth during neuron polarization. Subcellularly, MAP-6 localizes to the cytoskeleton, Golgi apparatus, axons, dendrites, and secretory vesicle membranes, with preferential accumulation in the proximal axon region and concentration on modified microtubule polymers resistant to depolymerization. Its localization patterns change during neuronal development, initially accumulating at neurite tips and growth cones before distributing throughout mature axons. Notably, MAP-6 has been observed in neurofilament-rich inclusions in amyotrophic lateral sclerosis (ALS) patients, suggesting potential relevance to neurodegenerative disease pathology.