Recombinant TPM1 protein (His tag)

Catalog Number	537469
Synonyms	Alpha-tropomyosin; Tropomyosin-1
Species	Human
Expression System	E. coli
Accession	P09493
Molecular Weight	Predictes a molecular mass of 34.37 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 47 kDa band.

Product Information

Sequence Region	1-284
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 1-284 aa (P09493) 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 Tropomyosin alpha-1 chain (TPM1) fragment (residues 1-284) is a high-purity protein designed for structural and biochemical studies. This stable, soluble fragment retains key functional regions, enabling research into actin-binding mechanisms and muscle contraction regulation. Tropomyosin alpha-1 chain, encoded by the TPM1 gene, binds to actin filaments in both muscle and non-muscle cells. It plays a central role in calcium-dependent regulation of vertebrate striated muscle contraction through association with the troponin complex, while in smooth muscle, contraction is regulated via interaction with caldesmon. In non-muscle cells, it contributes to cytoskeleton stability by stabilizing actin filaments. The protein localizes to the cytoplasm and cytoskeleton, where it associates with F-actin stress fibers, highlighting its fundamental importance in cellular structure and contractile processes.