Recombinant MLC5 protein (His tag)

Catalog Number	534050
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	Q9XVI9
Gene ID	176796
Molecular Weight	Predictes a molecular mass of 17.62 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 20 kDa band.

Product Information

Sequence Region	1-142
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 1-142 aa (Q9XVI9) 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 Myosin-2 essential light chain (mlc-5) fragment from Caenorhabditis elegans, encompassing amino acids 1-142. This carefully designed fragment includes the complete EF-hand 1 and EF-hand 2 domains, making it an exceptional tool for investigating calcium-binding properties and myosin II regulation in developmental processes. The full-length Myosin-2 essential light chain (UniProt ID: Q9XVI9) is critically required for cytokinesis and embryo elongation in C. elegans. It functions by regulating myosin II complex formation and the association of myosin with actin filaments, potentially through organizing mlc-4 and nmy-2 into functional bundles. Subcellular localization studies demonstrate its presence in both the cytoplasm and cytoskeleton, where it forms filamentous structures during the 2-fold embryonic stage that may co-localize with actin. This localization pattern, regulated by mlc-4, underscores its essential role in cytoskeletal organization during embryonic development.