Recombinant IF4E1 protein (His tag)

Catalog Number	533113
Synonyms	eIF-4E-1; eIF4E-1; eIF-4F 25 kDa subunit; mRNA cap-binding protein
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	O45551
Gene ID	176755
Molecular Weight	Predictes a molecular mass of 25.97 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band.

Product Information

Sequence Region	1-212
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 1-212 aa (O45551) 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 Eukaryotic translation initiation factor 4E-1 (eIF-4E-1) fragment from Caenororhabditis elegans, encompassing amino acids 1-212. This high-quality protein fragment is engineered for stability and solubility, ideal for studying mRNA cap-binding mechanisms, translation initiation, and spermatogenesis-related functions in biochemical and structural research applications. Eukaryotic translation initiation factor 4E-1 (eIF-4E-1) is a key regulatory protein that recognizes and binds the 7-methylguanosine cap structure of mRNA during the early stages of protein synthesis. It facilitates ribosome binding by unwinding secondary structures in mRNA, thereby promoting efficient translation initiation. The protein exhibits specificity for both monomethyl and trimethyl cap structures, with the latter's binding potentially regulated by intracellular redox states through disulfide bond modifications. Functionally, eIF-4E-1 is essential for meiotic progression and viable sperm production during spermatogenesis in C. elegans, though it is dispensable in oogenesis. Subcellularly, it localizes to the cytoplasm, particularly when associated with pgl-1, underscoring its role in cytoplasmic translation processes.