Recombinant CUP protein (His tag)

Catalog Number	532945
Synonyms	Oskar ribonucleoprotein complex 147 kDa subunit
Species	Drosophila melanogaster
Expression System	E. coli
Accession	Q9VMA3
Gene ID	33934
Molecular Weight	Predictes a molecular mass of 21.09 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	811-979
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 811-979 aa (Q9VMA3) 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 Drosophila melanogaster Protein cup (Oskar ribonucleoprotein complex 147 kDa subunit) fragment (residues 811-979) is a 169-amino acid, stable, and soluble unit ideal for structural studies and biochemical assays. This fragment enables researchers to investigate the molecular mechanisms of mRNA localization, translational repression, and germ plasm assembly in fruit fly oocytes and embryos. The full-length Protein cup serves as a critical adapter protein in Drosophila melanogaster, central to mRNA localization and translational regulation during oogenesis and early embryogenesis. It maintains RNA targets in a repressed state by promoting deadenylation and protecting mRNAs from degradation, while also binding eIF-4E to prevent its interaction with eIF4G, contributing to translational repression. Protein cup is essential for the repression of key mRNAs like oskar and nanos, promotes accumulation of germ plasm components at the oocyte posterior, and supports germ cell development. Additionally, it represses orb autoregulation to ensure proper accumulation in oocytes and forms complexes in embryos to down-regulate maternal mRNAs during the maternal-to-zygotic transition. Subcellularly, it localizes to the cytoplasm, cytoplasmic ribonucleoprotein granules, and the nucleus, with exclusion from processing bodies, and accumulates at the posterior end of oocytes as part of the germ plasm.