Recombinant RTCA protein (His tag)

Catalog Number	534300
Synonyms	RNA cyclase; RNA-3'-phosphate cyclase
Species	Drosophila melanogaster
Expression System	E. coli
Accession	O77264
Gene ID	31175
Molecular Weight	Predictes a molecular mass of 41.16 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 41 kDa band.

Product Information

Sequence Region	1-361
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 1-361 aa (O77264) 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 RNA 3'-terminal phosphate cyclase (Rtca) fragment (residues 1-361) is a high-purity protein preparation ideal for investigating RNA processing mechanisms and neuronal regeneration pathways. This stable, soluble fragment retains functional domains necessary for structural and biochemical studies. RNA 3'-terminal phosphate cyclase (EC 6.5.1.4) catalyzes the ATP-dependent conversion of RNA 3'-phosphate termini to 2',3'-cyclic phosphodiesters through a three-step adenylation mechanism. This enzyme plays critical roles in cellular RNA processing and functions as a key regulator in RNA repair and splicing pathways that control axon regeneration following nervous system injury. Research demonstrates that Rtca negatively regulates Xbp1 splicing upon axotomy, subsequently inhibiting axon regeneration through downstream effectors including microtubule regulators ringer and futsch. The protein localizes to the nucleus, consistent with its RNA processing functions.