Recombinant ORB2 protein (His tag)

Catalog Number	532966
Species	Drosophila melanogaster
Expression System	E. coli
Accession	Q9VSR3
Gene ID	39018
Molecular Weight	Predictes a molecular mass of 31.38 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 32 kDa band.

Product Information

Sequence Region	443-704
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 443-704 aa (Q9VSR3) 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 Translational regulator orb2 fragment (residues 443-704) is a high-purity protein preparation ideal for investigating RNA-binding mechanisms and translational regulation. This fragment contains both RRM domains (RRM 1: 447-538, RRM 2: 555-637), making it an essential tool for studying domain-specific functions in neuronal development, memory formation, and mRNA metabolism. Translational regulator orb2 (encoded by the orb2 gene) is a critical RNA-binding protein in Drosophila melanogaster that plays dual roles in translational regulation and long-term memory formation. In its monomeric state, it functions as a translational repressor by binding mRNA 3'-UTRs, reducing poly(A) tail length, and destabilizing mRNAs involved in neuronal growth and synapse formation. Conversely, its amyloid-like oligomeric form acts as a translational activator, protecting and elongating poly(A) tails to stabilize mRNA. The protein is essential for asymmetric cell division in the central nervous system, synapse morphology at neuromuscular junctions, and progression through spermatogenesis. It localizes to various cellular compartments including perikaryon, axons, dendrites, synapses, and cytoplasm, with isoform-specific distributions - isoform A primarily at synapses for initial memory acquisition, while isoform B localizes to perikaryon, axons, and synapses for memory consolidation through CaMKII translation activation.