Recombinant FRDA protein (His tag)

Catalog Number	532431
Synonyms	Dfh
Species	Drosophila melanogaster
Expression System	E. coli
Accession	Q9W385
Gene ID	31845
Molecular Weight	Predictes a molecular mass of 15.30 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 15 kDa band.

Product Information

Sequence Region	68-190
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 68-190 aa (Q9W385) 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 Frataxin homolog, mitochondrial (Dfh) fragment (residues 68-190) is a high-quality protein product designed for structural and biochemical studies. This 123-amino acid fragment represents a stable, soluble unit of the enzyme (EC 1.16.3.1), ideal for investigating iron-sulfur cluster assembly, heme biosynthesis, and iron metabolism pathways. Frataxin homolog, mitochondrial (Dfh) from Drosophila melanogaster plays crucial roles in cellular iron metabolism. It promotes heme biosynthesis and facilitates the assembly and repair of iron-sulfur clusters by delivering Fe^{2+} to proteins involved in these pathways. The protein also exhibits catalytic activity in oxidizing Fe^{2+} to Fe^{3+}, potentially protecting against iron-catalyzed oxidative stress. Additionally, Dfh may store iron in ferrihydrite mineral form through oligomerization and is required for ecdysteroidogenesis in the prothoracic gland, which is essential for larval to pupal transition. The protein localizes to the mitochondrion, where it performs these vital functions in iron homeostasis and developmental processes.