Recombinant RUSD4 protein (His tag)

Catalog Number	545653
Synonyms	RNA pseudouridylate synthase domain-containing protein 4
Species	Human
Expression System	E. coli
Accession	Q96CM3
Molecular Weight	Predictes a molecular mass of 39.77 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	42-377
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 42-377 aa (Q96CM3) 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 RPUSD4 Fragment (42-377) is a high-quality, soluble protein derived from human Pseudouridylate synthase RPUSD4, mitochondrial. This fragment is engineered for stability and solubility, making it ideal for structural studies, biochemical assays, and functional investigations into RNA pseudouridylation and mitochondrial ribosome assembly. RPUSD4, or Pseudouridylate synthase RPUSD4, mitochondrial, is a key enzyme that catalyzes the isomerization of uridine to pseudouridine in various mitochondrial RNA substrates, including 16S mitochondrial ribosomal RNA (mt-rRNA) and mitochondrial tRNA(Phe). This modification is essential for the assembly of functional mitochondrial ribosomes and supports intra-mitochondrial translation as part of a protein-RNA module involving partners like RCC1L and TRUB2. Additionally, RPUSD4 regulates pre-mRNA splicing in the nucleus by pseudouridylating pre-mRNAs near splice sites, influencing mRNA processing. The protein primarily localizes to the mitochondrial matrix and mitochondrial RNA granules, with presence also noted in the nucleus and cytoplasm, underscoring its roles in RNA modification and cellular metabolism.