Recombinant RM45 protein (His tag)

Catalog Number	541133
Synonyms	39S ribosomal protein L45, mitochondrial; L45mt; MRP-L45
Species	Human
Expression System	E. coli
Accession	Q9BRJ2
Molecular Weight	Predictes a molecular mass of 32.23 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 33 kDa band.

Product Information

Sequence Region	43-306
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 43-306 aa (Q9BRJ2) 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 Human MRPL45 Protein Fragment (residues 43-306) - a highly stable and soluble fragment of the mitochondrial large ribosomal subunit protein mL45, specifically designed for structural biology and functional studies of mitochondrial protein synthesis. The full-length Large ribosomal subunit protein mL45 (MRP-L45) is an essential component of the mitochondrial large ribosomal subunit (mt-LSU) in human cells. This protein plays a critical role in mitochondrial protein synthesis by directing nascent polypeptides toward the ribosomal tunnel exit and properly positioning the exit relative to the mitochondrial membrane surface. Located exclusively within mitochondria, MRPL45 is fundamental to the mitochondrial translation machinery, which is essential for oxidative phosphorylation and cellular energy production. The protein's function in guiding polypeptide chain emergence and membrane positioning makes it crucial for proper mitochondrial function and cellular energy metabolism.