Recombinant RF1M protein (His tag)

Catalog Number	546552
Synonyms	MRF-1; MtRF-1
Species	Human
Expression System	E. coli
Accession	O75570
Molecular Weight	Predictes a molecular mass of 45.37 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 49 kDa band.

Product Information

Sequence Region	70-445
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 70-445 aa (O75570) 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 Peptide chain release factor 1, mitochondrial (MRF-1/MtRF-1) fragment (residues 70-445) is a highly stable and soluble protein unit ideal for investigating mitochondrial translation termination mechanisms. This fragment supports structural and biochemical studies focused on non-canonical stop codon recognition. The full-length Peptide chain release factor 1, mitochondrial (MRF-1/MtRF-1), encoded by the MTRF1 gene in Homo sapiens, functions as a mitochondrial translation termination factor. It specifically recognizes non-canonical stop codons AGG and AGA to terminate protein synthesis for key mitochondrial-encoded proteins such as MT-CO1/COX1 and MT-ND6/ND6. Unlike canonical release factors, MRF-1 employs a unique mechanism involving interactions with ribosomal RNA and mRNA bases to reposition codon nucleotides, ensuring accurate translation termination. This protein is localized to the mitochondrion, underscoring its essential role in mitochondrial gene expression and energy production.