Recombinant SYYM protein (His tag)

Catalog Number	541602
Synonyms	Tyrosyl-tRNA synthetase; TyrRS
Species	Human
Expression System	E. coli
Accession	Q9Y2Z4
Molecular Weight	Predictes a molecular mass of 50.98 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 51 kDa band.

Product Information

Sequence Region	37-477
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 37-477 aa (Q9Y2Z4) 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 Tyrosine--tRNA Ligase, Mitochondrial (YARS2) Fragment (residues 37-477) is a high-purity, stable protein designed for structural and biochemical studies. This 441-amino acid fragment retains key functional regions, offering researchers a soluble and reliable tool for investigating mitochondrial tRNA charging mechanisms. The full-length Tyrosine--tRNA ligase, mitochondrial (EC 6.1.1.1), encoded by the YARS2 gene, catalyzes the specific attachment of tyrosine to its cognate tRNA(Tyr) in a two-step ATP-dependent reaction. This aminoacylation is essential for mitochondrial protein synthesis, as it ensures the accurate translation of mitochondrial genes by providing Tyr-tRNA(Tyr) for the ribosome. The enzyme localizes to the mitochondrial matrix, where it supports oxidative phosphorylation and cellular energy production. Mutations in YARS2 have been linked to human disorders, underscoring its critical role in mitochondrial function and metabolic health.