Recombinant TYW2 protein (His tag)

Catalog Number	545115
Synonyms	tRNA-yW-synthesizing protein 2; tRNA(Phe) (4-demethylwyosine(37)-C(7)) aminocarboxypropyltransferase
Species	Human
Expression System	E. coli
Accession	Q53H54
Molecular Weight	Predictes a molecular mass of 39.89 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	1-342
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 1-342 aa (Q53H54) 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 tRNA wybutosine-synthesizing protein 2 homolog (TRMT12) fragment (residues 1-342) is a high-purity, stable protein designed for structural and functional studies. This fragment encompasses a soluble and stable region of the enzyme, ideal for investigating its role in the wybutosine biosynthesis pathway and its catalytic activity as a tRNA(Phe) (4-demethylwyosine(37)-C(7)) aminocarboxypropyltransferase. The full-length tRNA wybutosine-synthesizing protein 2 homolog, encoded by the TRMT12 gene in Homo sapiens, is an S-adenosyl-L-methionine-dependent transferase essential for the wybutosine biosynthesis pathway. Wybutosine is a hypermodified guanosine base located at the 3'-position adjacent to the anticodon of eukaryotic phenylalanine tRNA, which enhances translational fidelity and stability. This enzyme specifically catalyzes the transfer of the alpha-amino-alpha-carboxypropyl group from S-adenosyl-L-methionine to the C-7 position of 4-demethylwyosine (imG-14), resulting in the formation of wybutosine-86. This modification is critical for accurate protein synthesis and has implications in cellular function and disease research.