Recombinant TYW5 protein (His tag)

Catalog Number	537112
Synonyms	hTYW5; tRNA yW-synthesizing protein 5; tRNA(Phe) (7-(3-amino-3-carboxypropyl)wyosine(37)-C(2))-hydroxylase
Species	Human
Expression System	E. coli
Accession	A2RUC4
Molecular Weight	Predictes a molecular mass of 38.20 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	1-315
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 1-315 aa (A2RUC4) 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 5 (hTYW5) fragment (amino acids 1-315) is a high-purity protein designed for studying tRNA modification pathways. This fragment encompasses the complete JmjC functional domain, making it an ideal tool for investigating hydroxylase activity and wybutosine biosynthesis mechanisms in eukaryotic systems. Human TYW5 is a tRNA hydroxylase (EC 1.14.11.42) that plays a crucial role in the wybutosine biosynthesis pathway. Wybutosine represents a hypermodified guanosine base found specifically at position 37 of eukaryotic phenylalanine tRNA, adjacent to the anticodon. TYW5 catalyzes the hydroxylation of 7-(α-amino-α-carboxypropyl)wyosine (yW-72) to form undermodified hydroxywybutosine (OHyW*), which is subsequently converted to hydroxywybutosine (OHyW) by LCMT2/TYW4. This modification pathway is essential for proper tRNA function and translational fidelity in higher eukaryotes. The recombinant fragment provided contains the critical JmjC domain responsible for the enzyme's catalytic activity.