# Recombinant TM10C protein (His tag)

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| **Catalog Number** | 540582 |
| **Synonyms** | HBV pre-S2 trans-regulated protein 2; Mitochondrial ribonuclease P protein 1; Mitochondrial RNase P protein 1; RNA (guanine-9-)-methyltransferase domain-containing protein 1; Renal carcinoma antigen NY-REN-49; mRNA methyladenosine-N(1)-methyltransferase; tRNA (adenine(9)-N(1))-methyltransferase; tRNA (guanine(9)-N(1))-methyltransferase |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q7L0Y3 |
| **Molecular Weight** | Predictes a molecular mass of 38.81 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band. |

## Product Information

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| **Sequence Region** | 89-403 |
| **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 89-403 aa (Q7L0Y3) were fused with 6His tag. |

## Storage & Handling

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| **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.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Introducing the recombinant TRMT10C protein fragment (amino acids 89-403), a high-purity tool designed for studying mitochondrial tRNA and mRNA methylation. This fragment encompasses the essential SAM-dependent MTase TRM10-type domain, enabling researchers to investigate N(1)-methyltransferase activity and RNA maturation mechanisms in a defined, functional context.<br>TRMT10C is a multifunctional mitochondrial enzyme critical for RNA processing and maturation. As a key component of the mitochondrial ribonuclease P complex, it partners with HSD17B10/MRPP2 to form a subcomplex that catalyzes N(1)-methylation at position 9 of tRNAs (producing m1G9 and m1A9 modifications) and additionally methylates adenosine residues in MT-ND5 mRNA. Beyond its methyltransferase activities, TRMT10C serves as a platform for tRNA maturation, coordinating 5'-end cleavage, enhancing 3'-processing by ELAC2, and presenting tRNAs to TRNT1 for CCA addition. Located in the mitochondrial matrix and nucleoids, TRMT10C associates with mitochondrial DNA complexes to initiate RNA processing and ribosome assembly, highlighting its central role in mitochondrial gene expression. |