Recombinant METL4 protein (His tag)

Catalog Number	547732
Synonyms	6; Methyltransferase-like protein 4; N(6)-adenine-specific DNA methyltransferase METTL4; snRNA (2'-O-methyladenosine-N(6)-)-methyltransferase METTL4
Species	Human
Expression System	E. coli
Accession	Q8N3J2
Molecular Weight	Predictes a molecular mass of 39.95 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	139-472
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 139-472 aa (Q8N3J2) 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	This recombinant protein product features a stable and soluble fragment (residues 139-472) of human N(6)-adenine-specific methyltransferase METTL4, designed for structural and biochemical studies. METTL4 is a versatile enzyme with dual RNA and DNA methylation capabilities, playing key roles in RNA splicing regulation, mitochondrial DNA transcription control, and Polycomb-mediated epigenetic silencing. METTL4 is a N(6)-adenine-specific methyltransferase that methylates both RNA and DNA substrates. As an RNA methyltransferase, it catalyzes the formation of N6,2'-O-dimethyladenosine (m6A(m)) on U2 small nuclear RNA, thereby regulating RNA splicing processes. The enzyme also functions as a DNA methyltransferase, mediating N(6)-methyladenosine deposition on mitochondrial DNA, which reduces transcription by inhibiting TFAM DNA-binding and bending, thereby regulating mitochondrial transcript levels and DNA copy number. Additionally, METTL4 contributes to Polycomb silencing regulation by triggering degradation of sensor proteins ASXL1 and MPND, leading to preservation of epigenetic silencing. The protein localizes to multiple cellular compartments including the nucleus, cytosol, and mitochondrial matrix, reflecting its diverse functional roles in cellular regulation.