Data Sheet (Cat.No.TMPH-01681)

TargetMol

METTL4 Protein, Human, Recombinant (His & Myc)

General Information

Synonyms:	N(6)-adenine-specific DNA methyltransferase METTL4;N(6)-adenine-specific methyltransferase METTL4;METTL4;Methyltransferase-like protein 4;snRNA (2'-O-methyladenosine-N(6)-)-methyltransferase METTL4
Protein Construction:	1-472 aa
Species:	Human
Expression Host:	E. coli
Accession:	Q8N3J2
Molecular Weight:	61.5 kDa (predicted)
AA Sequence:	MSVVHQLSAGWLLDHLSFINKINYQLHQHHEPCCRKKEFTTSVHFESLQMDSVSSSGVCAAFIASDSSTKPEN DDGGNYEMFTRKFVFRPELFDVTKPYITPAVHKECQQSNEKEDLMNGVKKEISISIIGKKRKRCVVFNQGELDA MEYHTKIRELILDGSLQLIQEGLKSGFLYPLFEKQDKGSKPITLPLDACSLSELCEMAKHLPSLNEMEHQTLQLV EEDTSVTEQDLFLRVVENNSSFTKVITLMGQKYLLPPKSSFLLSDISCMQPLLNYRKTFDVIVIDPPWQNKSVKR SNRYSYLSPLQIQQIPIPKLAAPNCLLVTWVTNRQKHLRFIKEELYPSWSVEVVAEWHWVKITNSGEFVFPLDS PHKKPYEGLILGRVQEKTALPLRNADVNVLPIPDHKLIVSVPCTLHSHKPPLAEVLKDYIKPDGEYLELFARNLQ PGWTSWGNEVLKFQHVDYFIAVESGS

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

N(6)-adenine-specific methyltransferase that can methylate both RNAs and DNA. Acts as a N(6)-adenine-specific RNA methyltransferase by catalyzing formation of N6,2'-O-dimethyladenosine (m6A(m)) on internal positions of U2 small nuclear RNA (snRNA): methylates the 6th position of adenine residues with a pre-deposited 2'-O-methylation. Internal m6A(m) methylation of snRNAs regulates RNA splicing. Also able to act as a N(6)-adenine-specific DNA methyltransferase by mediating methylation of DNA on the 6th position of adenine (N(6)-methyladenosine). The existence of N(6)-methyladenosine (m6A) on DNA is however unclear in mammals, and additional evidences are required to confirm the role of the N(6)-adenine-specific DNA methyltransferase activity of METTL4 in vivo. Acts as a regulator of mitochondrial transcript levels and mitochondrial DNA (mtDNA) copy number by mediating mtDNA N(6)-methylation: m6A on mtDNA reduces transcription by repressing TFAM DNA-binding and bending. N(6)-methyladenosine deposition by METTL4 regulates Polycomb silencing by triggering ubiquitination and degradation of sensor proteins ASXL1 and MPND, leading to inactivation of the PR-DUB complex and subsequent preservation of Polycomb silencing.

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