

Product datasheet for **RC208648**

METT10D (METTL16) (NM_024086) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	METT10D (METTL16) (NM_024086) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	METT10D
Synonyms:	METT10D
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC208648 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCTCTGAGTAAATCAATGCATGCAAGAAATAGATACAAGGACAAACCTCTGACTTTGCATATCTGG
 CATCCAAATATCCAGATTTTAAGCAGCATGTTTCAGATAAATCTGAATGGAAGAGTGAGCCTTAATTTTAA
 AGACCCCGAAGCAGTCAGAGCTCTGACGTGACTCTCCTAAGGGAAGATTTGGACTTTCTATTGATATT
 CCATTGGAGAGACTAATCCACAGTTCCTTGAGACTCAACTATATTCCTGGGTAGAAGATCTGATCG
 GTCACCAGGATTCTGACAAAAGTACTCTCGAAGAGGAATTGACATAGGCACGGGGGCATCTTGCATCTA
 CCCCTTACTTGGAGCAACCTGAATGGCTGGTATTTCTCGCAACAGAAGTGGATGATATGTGTTTCAAC
 TATGCAAAGAAAAATGTGGAACAGAATAACTTATCTGATCTCATAAAAAGTGGTAAAAGTGCCACAGAAGA
 CACTCCTGATGGATGCTCTTAAAGAAGAATCTGAGATAATCTATGACTTTTGCATGTGCAACCTCCCTT
 TTTTGCCAAATCAATTGGAAGCCAAGGGAGTAAACTCACGAAATCCTCGAAGACCTCCGCCTAGTTCTGTT
 AATACAGGAGGCATCACAGAGATCATGGCAGAAGGAGGTGAATTAGAGTTTGTAAAAGGATCATCCATG
 ACAGTCTACAACCTAAAAAAGATTAAGATGGTATAGCTGCATGCTGGGAAAGAAATGCAGCCTGGCGCC
 TCTGAAGGAGGAGCTTCGCATACAAGGGGTTCCCAAAGTAAACGTACACTGAATTTCTGCAAGGTCGGACA
 ATGAGATGGGCCTTAGCTTGGAGTTTTATGATGATGTCACAGTACCATCACCACCAAGTAAAGCGAAGAA
 AATTAGAGAAACCGAGAAAACCCATAACATTCGTGGTGTGGCGTCCGTGATGAAGGAATTATCCCTCAA
 AGCATCACCTCTGCGCTCGGAGACGGCGGAAGGCATAGTCGTTGTCACGACATGGATTGAAAAAATCTC
 ACTGATTTGAAGTCCAGCATAAACGAGTTCCTGTGAAAAGAGGAAGTCAAGCTTTTCTAACGGCCA
 TAGAAAACCTCTGGATTCATTTAAGGAGAAAAGAGAGCGTGTGAGACAGCTGAGAGAAAGTCCCTCCCG
 AGCTCCTGAGGACGTATTTCAGGCCTTGAAGAGAAAAAGCCACCCCAAGAGTCTGGCAATAGCCAA
 GAACTGGCCAGGGGCCCCAGGAGAGGACCCCTGTGGGCTGCTCTGCGGGAAGGCGAGGCTGCCGCTG
 TGGAGGGCCCGTCCCGAGCCAGGAGTCCCTGTCCAGGAGGAAAACCCGGAACCCACGGAGGATGAAAAG
 GAGTGAGGAAAAGGGAGGGTGGAGTTTTGGAAAATTGTCAAGGCTCTAGCAACGGAGCCAGGACCAA
 GAGGCTTCTGAGCAGTTCGGCAGCCAGTGGCTGAAAGGGGAAACGTCTCCAGGAGTGGCCGGACAGT
 ACCTGTTAAGTGTGATAAACGTTAAGAAGGAGGTGGACGATGCCTTAGTGGAGATGCACTGGGTTGA
 GGGCCAGAACAGGATCTGATGAACCAGCTTGCACCTACATACGTAACCAATTTTCAGGCTTGTGCA
 GTTAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC208648 protein sequence
 Red=Cloning site Green=Tags(s)

MALSKSMHARNRYKDKPPDFAYLASKYPDFKQHVQINLNGRVSLNFKDPEAVRALTCTLLREDFGLSIDI
 PLERLIPTVPLRLNYIHWVEDLIGHQSDKSTLRRGIDIGTGASCIYPLLGLATLNGWYFLATEVDDMCFN
 YAKKNVEQNNLSDLIKVVKVPQKTLMDALKEESEIYDFCMCNPPFFANQLEAKGVNSRNP RPSSV
 NTGGITEIMAEGGELEFVKRIIHDSLQLKKRLRWYSCMLGKKCSLAPLKEELRIQGVPKVYTFEFCQGR
 MRWALAWSFYDDVTVPSPSKRRKLEKPRKPIFVVLASVMKELSLKASPLRSETAEGIVVTTWIEKIL
 TDLKVQHKRVPCGKEEVSLFLTAIENSWIHLRRKKRERVRQLREVPRAPEDVIQALEEKPTPKESGNSQ
 ELARGPQERTPCGPALREGAAAVEGPCPSQESLSQEENPEPTEDERSEEKGGVEVLENCQSSNGAQDQ
 EASEQFGSPVAERGRKRLPGVAGQYLFKCLINVKKEVDDALVEMHWVEGQNRDLMNQLCTYIRNQIFRLVA
 VN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6362_g12.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_024086

ORF Size: 1686 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_024086.3](#), [NP_076991.3](#)

RefSeq Size: 5758 bp

RefSeq ORF: 1689 bp

Locus ID: 79066

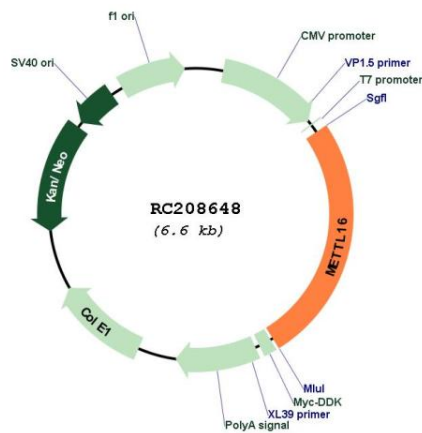
UniProt ID: [Q86W50](#)

Cytogenetics: 17p13.3

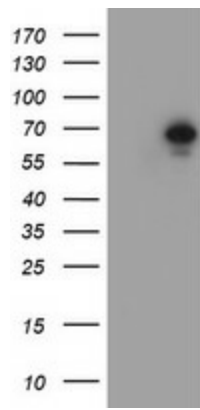
MW: 63.6 kDa

Gene Summary: RNA N6-methyltransferase that methylates adenosine residues at the N(6) position of a subset of RNAs and is involved in S-adenosyl-L-methionine homeostasis by regulating expression of MAT2A transcripts (PubMed:28525753, PubMed:30197299, PubMed:30197297). Able to N6-methylate a subset of mRNAs and U6 small nuclear RNAs (U6 snRNAs) (PubMed:28525753). In contrast to the METTL3-METTL14 heterodimer, only able to methylate a limited number of RNAs: requires both a 5'UACAGAGAA-3' nonamer sequence and a specific RNA structure (PubMed:28525753, PubMed:30197299, PubMed:30197297). Plays a key role in S-adenosyl-L-methionine homeostasis by mediating N6-methylation of MAT2A mRNAs, altering splicing and/or stability of MAT2A transcripts: in presence of S-adenosyl-L-methionine, binds the 3' UTR region of MAT2A mRNA and specifically N6-methylates the first hairpin of MAT2A mRNA, impairing MAT2A expression (PubMed:28525753). In S-adenosyl-L-methionine-limiting conditions, binds the 3' UTR region of MAT2A mRNA but stalls due to the lack of a methyl donor, preventing N6-methylation and promoting expression of MAT2A (PubMed:28525753). In addition to mRNAs, also able to mediate N6-methylation of U6 small nuclear RNA (U6 snRNA): specifically N6-methylates adenine in position 43 of U6 snRNAs (PubMed:28525753, PubMed:29051200). Also able to bind various lncRNAs (PubMed:29051200). Specifically binds the 3'-end of the MALAT1 long non-coding RNA (PubMed:27872311).[UniProtKB/Swiss-Prot Function]

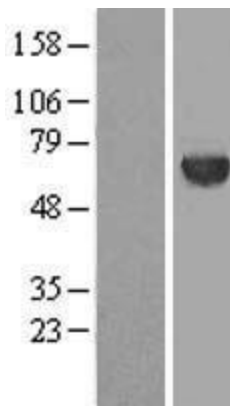
Product images:



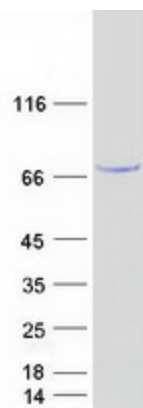
Circular map for RC208648



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY METT10D (Cat# RC208648, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-METT10D(Cat# [TA504710]). Positive lysates [LY411358] (100ug) and [LC411358] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY411358]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208648 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified METTL16 protein (Cat# [TP308648]). The protein was produced from HEK293T cells transfected with METTL16 cDNA clone (Cat# RC208648) using MegaTran 2.0 (Cat# [TT210002]).