

PRODUCT INFORMATION



METTL16 (human, recombinant)

Item No. 26343

Overview and Properties

Synonyms: EC 2.1.1.346, EC 2.1.1.62, Methyltransferase-Like Protein 16, Methyltransferase 10 Domain-Containing Protein, N⁶-Adenosine-Methyltransferase METTL16, Putative Methyltransferase METT10D, U6 Small Nuclear RNA (adenine-(43)-N(6))-Methyltransferase, U6 snRNA Methyltransferase METT10D

Source: Human recombinant C-terminal histidine-tagged METTL16 purified from *E. coli*

Amino Acids: 2-562 (full length)

Uniprot No.: Q86W50

Molecular Weight: 64.5 kDa

Storage: -80°C (as supplied)

Stability: ≥1 year

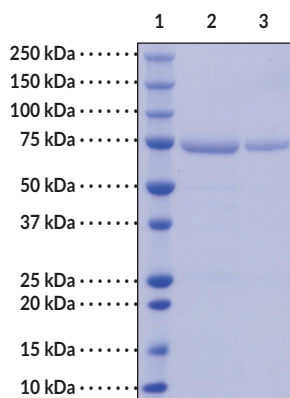
Purity: *batch specific* (≥90% estimated by SDS-PAGE)

Supplied in: 50 mM HEPES, pH 8.0, with 150 mM sodium chloride and 10% glycerol

Protein Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: METTL16 (4 µg)
Lane 3: METTL16 (2 µg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

Methyltransferase-like protein 16 (METTL16) is an m⁶A RNA methyltransferase encoded by the METTL16 gene in humans.¹ It is composed of a methyltransferase domain that associates with RNA and two vertebrate conserved regions (VCRs) on the C-terminal end that promote splicing.² METTL16 acts as an epigenetic writer by methylating the pre-mRNA of the S-adenosylmethionine (SAM) synthetase MAT2A in the presence of SAM. It also methylates the adenine at position 43 of spliceosome component U6 snRNA and interacts with cancer-associated MALAT1 long non-coding RNA (lncRNA).^{1,3} Knockout of Mettl16 in mouse embryos leads to a reduction in Mat2a mRNA expression, transcriptome dysregulation, and lethality at approximately the implantation stage.⁴ The expression of METTL16 is increased in isolated human colon, but not rectal, adenocarcinoma tumor tissue, and decreased METTL16 expression in rectal adenocarcinoma tumor tissue is associated with lower overall survival.⁵

References

1. Ruzkowska, A., Ruzkowski, A., Dauter, Z., *et al.* Structural insights into the RNA methyltransferase domain of METTL16. *Sci. Rep.* **8**(1), 5311 (2018).
2. Pendleton, K.E., Chen, B., Liu, K., *et al.* The U6 snRNA m⁶A methyltransferase METTL16 regulates SAM synthetase intron retention. *Cell* **169**(5), 824-835 (2017).
3. Warda, A.S., Kretschmer, J., Hackert, P., *et al.* Human METTL16 is a N⁶-methyladenosine (m⁶A) methyltransferase that targets pre-mRNAs and various non-coding RNAs. *EMBO Rep.* **18**(11), 2004-2014 (2017).
4. Mendel, M., Chen, K.M., Homolka, D., *et al.* Methylation of structured RNA by the m⁶A writer METTL16 is essential for mouse embryonic development. *Mol. Cell.* **71**(5), 986-1000 (2018).
5. Liu, X., Liu, L., Dong, Z., *et al.* Expression patterns and prognostic value of m⁶A-related genes in colorectal cancer. *Am. J. Transl. Res.* **11**(7), 3972-3991 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM