

# METTL3 (D-9): sc-518180

## BACKGROUND

METTL3 (methyltransferase like 3), also known as M6A, IME4, Spo8 or MT-A70, is a 580 amino acid nuclear speckle protein belonging to the methyltransferase superfamily, which includes DNA methyltransferases (Dnmt), histone methyltransferases and catechol-O-methyl transferases, as well as many others. Members of this family have enzymatic activity that results in the transfer of a methyl group to and from DNA, RNA or amino acids. Widely expressed at low levels, it is suggested that METTL3 may be associated with nuclear pre-mRNA splicing components. Considered a N<sup>6</sup>-methyltransferase, METTL3 methylates adenosine residues of some mRNAs. N<sup>6</sup>-methyladenosine is present at internal sites of several mRNAs, which may play a role in the efficiency of mRNA splicing, transport or translation. The gene encoding METTL3 is located on human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Produced by alternative splicing events, two isoforms of METTL3 exists.

## REFERENCES

1. Bokar, J.A., et al. 1997. Purification and cDNA cloning of the AdoMet-binding subunit of the human mRNA (N<sup>6</sup>-adenosine)-methyltransferase. RNA 3: 1233-1247.
2. Bujnicki, J.M., et al. 2002. Structure prediction and phylogenetic analysis of a functionally diverse family of proteins homologous to the MT-A70 subunit of the human mRNA:m<sup>6</sup>A methyltransferase. J. Mol. Evol. 55: 431-444.
3. Clancy, M.J., et al. 2002. Induction of sporulation in *Saccharomyces cerevisiae* leads to the formation of N<sup>6</sup>-methyladenosine in mRNA: a potential mechanism for the activity of the IME4 gene. Nucleic Acids Res. 30: 4509-4518.
4. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.

## CHROMOSOMAL LOCATION

Genetic locus: METTL3 (human) mapping to 14q11.2.

## SOURCE

METTL3 (D-9) is a mouse monoclonal antibody raised against amino acids 349-479 mapping within an internal region of METTL3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

METTL3 (D-9) is available conjugated to agarose (sc-518180 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518180 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518180 PE), fluorescein (sc-518180 FITC), Alexa Fluor® 488 (sc-518180 AF488), Alexa Fluor® 546 (sc-518180 AF546), Alexa Fluor® 594 (sc-518180 AF594) or Alexa Fluor® 647 (sc-518180 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518180 AF680) or Alexa Fluor® 790 (sc-518180 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

METTL3 (D-9) is recommended for detection of METTL3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for METTL3 siRNA (h): sc-92172, METTL3 shRNA Plasmid (h): sc-92172-SH and METTL3 shRNA (h) Lentiviral Particles: sc-92172-V.

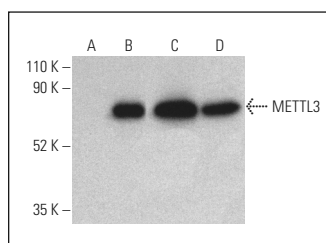
Molecular Weight of METTL3: 64 kDa.

Positive Controls: METTL3 (h): 293T Lysate: sc-369825, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

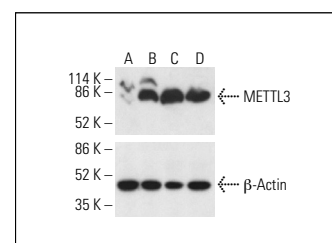
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



METTL3 (D-9): sc-518180. Western blot analysis of METTL3 expression in non-transfected 293T: sc-117752 (A), human METTL3 transfected 293T: sc-369825 (B), Jurkat (C) and Hep G2 (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



METTL3 (D-9): sc-518180. Western blot analysis of METTL3 expression in untreated (A) and chemically-treated (B, C, D) SP2/0 whole cell lysates. Detection reagent used: m-IgG<sub>2b</sub> BP-HRP: sc-542741. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.