

METTL1 (N-14): sc-161844

BACKGROUND

METTL1 (methyltransferase like 1), also known as TRM8, is a 276 amino acid ubiquitously expressed nuclear protein belonging to the TrmB family and methyltransferase superfamily. Containing a highly conserved S-adenosyl-methionine-binding domain that is typical of methyltransferases, METTL1 shares a high degree of sequence similarity with yeast ORF YDL201w and has been shown to be inactivated by phosphorylation. METTL1 forms a complex with WDR4 and catalyzes the 7-methylguanosine modification of tRNA at position 46 (m7G46) in a widely occurring bacterial and eukaryotic process that causes the base to become positively charged. Multiple METTL1 isoforms are produced due to alternative splicing events, and the gene encoding METTL1 maps to human chromosome 12q14.1. A METTL1 pseudogene has been identified on chromosome X.

REFERENCES

- Bahr, A., et al. 1999. Molecular analysis of METTL1, a novel human methyltransferase-like gene with a high degree of phylogenetic conservation. *Genomics* 57: 424-428.
- Alexandrov, A., et al. 2002. Two proteins that form a complex are required for 7-methylguanosine modification of yeast tRNA. *RNA* 8: 1253-1266.
- Carlidge, R.A., et al. 2005. The tRNA methylase METTL1 is phosphorylated and inactivated by PKB and RSK *in vitro* and in cells. *EMBO J.* 24: 1696-1705.
- Alexandrov, A., et al. 2005. tRNA m7G methyltransferase Trm8p/Trm82p: evidence linking activity to a growth phenotype and implicating Trm82p in maintaining levels of active Trm8p. *RNA* 11: 821-830.
- Muneyoshi, Y., et al. 2007. Hetero subunit interaction and RNA recognition of yeast tRNA (m7G46) methyltransferase synthesized in a wheat germ cell-free translation system. *Nucleic Acids Symp. Ser.* 51: 359-360.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 604466. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: METTL1 (human) mapping to 12q14.1; Mettl1 (mouse) mapping to 10 D3.

SOURCE

METTL1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of METTL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161844 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

METTL1 (N-14) is recommended for detection of METTL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other METTL family members.

METTL1 (N-14) is also recommended for detection of METTL1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for METTL1 siRNA (h): sc-96124, METTL1 siRNA (m): sc-149382, METTL1 shRNA Plasmid (h): sc-96124-SH, METTL1 shRNA Plasmid (m): sc-149382-SH, METTL1 shRNA (h) Lentiviral Particles: sc-96124-V and METTL1 shRNA (m) Lentiviral Particles: sc-149382-V.

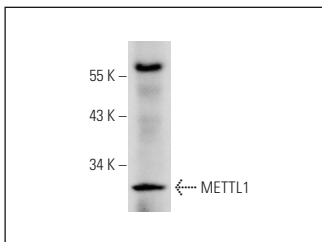
Molecular Weight of METTL1: 31 kDa.

Positive Controls: human placenta extract: sc-363772, NIH/3T3 nuclear extract: sc-2138 or HeLa whole cell lysate: sc-2200.

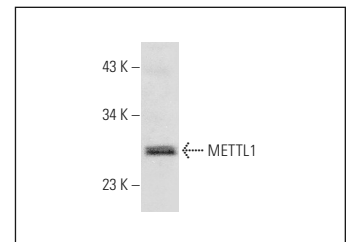
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



METTL1 (N-14): sc-161844. Western blot analysis of METTL1 expression in human placenta tissue extract.



METTL1 (N-14): sc-161844. Western blot analysis of METTL1 expression in NIH/3T3 nuclear extract.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.