

METTL3 Rabbit pAb

CatalogNo: YT8103

Key Features

Host Species

- Rabbit

Reactivity

- Human, Mouse

Applications

- WB, IHC

MW

- 64kD (Calculated)

Isotype

- IgG

Storage

Storage* -15°C to -25°C/1 year (Do not lower than -25°C)

Formulation Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-2000

IHC 1:50-200

Basic Information

Clonality Polyclonal

Immunogen Information

Immunogen Synthesized peptide derived from human N-terminal MTA70. AA range:25-105

Specificity This antibody detects endogenous levels of MTA70 at Human, Mouse

Target Information

Gene name METTL3 MTA70

Protein Name	N6-adenosine-methyltransferase 70 kDa subunit (MT-A70) (Methyltransferase-like protein 3)		
	Organism	Gene ID	UniProt ID
	Human	56339;	Q86U44;
	Mouse	56335;	Q8C3P7;
Cellular Localization	Nucleus . Nucleus speckle . Cytoplasm . Colocalizes with speckles in interphase nuclei , suggesting that it may be associated with nuclear pre-mRNA splicing components (PubMed:9409616) . In response to ultraviolet irradiation , colocalizes to DNA damage sites however , it probably does not bind DNA but localizes in the vicinity of DNA damage sites (PubMed:28297716) . .		
Tissue specificity	Widely expressed at low level. Expressed in spleen , thymus , prostate , testis , ovary , small intestine , colon and peripheral blood leukocytes.		
Function	The METTL3-METTL14 heterodimer forms a N6-methyltransferase complex that methylates adenosine residues at the N (6) position of some RNAs and regulates various processes such as the circadian clock , differentiation of embryonic and hematopoietic stem cells , cortical neurogenesis , response to DNA damage , differentiation of T-cells and primary miRNA processing . In the heterodimer formed with METTL14 , METTL3 constitutes the catalytic core . N6-methyladenosine (m6A) , which takes place at the 5'-[AG]GAC-3' consensus sites of some mRNAs , plays a role in mRNA stability , processing , translation efficiency and editing . M6A acts as a key regulator of mRNA stability: methylation is completed upon the release of mRNA into the nucleoplasm and promotes mRNA destabilization and degradation . In embryonic stem cells (ESCs) , m6A methylation of mRNAs encoding key naive pluripotency-promoting transcripts results in transcript destabilization , promoting differentiation of ESCs (By similarity) . M6A regulates the length of the circadian clock: acts as an early pace-setter in the circadian loop by putting mRNA production on a fast-track for facilitating nuclear processing , thereby providing an early point of control in setting the dynamics of the feedback loop (By similarity) . M6A also regulates circadian regulation of hepatic lipid metabolism . M6A regulates spermatogonial differentiation and meiosis and is essential for male fertility and spermatogenesis (By similarity) . Also required for oogenesis (By similarity) . Involved in the response to DNA damage: in response to ultraviolet irradiation , METTL3 rapidly catalyzes the formation of m6A on poly (A) transcripts at DNA damage sites , leading to the recruitment of POLK to DNA damage sites . M6A is also required for T-cell homeostasis and differentiation: m6A methylation of transcripts of SOCS family members (SOCS1 , SOCS3 and CISH) in naive T-cells promotes mRNA destabilization and degradation , promoting T-cell differentiation (By similarity) . Inhibits the type I interferon response by mediating m6A methylation of IFNB . M6A also takes place in other RNA molecules , such as primary miRNA (pri-miRNAs) . Mediates m6A methylation of Xist RNA , thereby participating in random X inactivation: m6A methylation of Xist leads to target YTHDC1 reader on Xist and promote transcription repression activity of Xist . M6A also regulates cortical neurogenesis: m6A methylation of transcripts related to transcription factors , neural stem cells , the cell cycle and neuronal differentiation during brain development promotes their destabilization and decay , promoting differentiation of radial glial cells (By similarity) . METTL3 mediates methylation of pri-miRNAs , marking them for recognition and processing by DGCR8 . Acts as a positive regulator of mRNA translation independently of the methyltransferase activity: promotes translation by interacting with the translation initiation machinery in the cytoplasm . Its overexpression in a number of cancer cells suggests that it may participate in cancer cell proliferation by promoting mRNA translation . During human coronavirus SARS-CoV-2 infection , adds m6A modifications in SARS-CoV-2 RNA leading to decreased DDX58/RIG-I binding and subsequently dampening the sensing and activation of innate immune responses .		

| Validation Data

| Contact information

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METTL3 Rabbit pAb

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