



METTL3 Rabbit mAb

Catalog No	YP-rAb-18057
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IHC,IF,IP,ELISA
Gene Name	METTL3 MTA70
Protein Name	N6-adenosine-methyltransferase 70 kDa subunit (MT-A70) (Methyltransferase-like protein 3)
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:200-400; WB 1:1000-5000; IF 1:200-1000; ELISA 1:5000-20000; IP 1:50-200 Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15 ° C to -25 ° C/1 year(Do not lower than -25 ° C)
Synonyms	METTL3;N6-adenosine-methyltransferase 70 kDa subunit (MT-A70) (Methyltransferase-like protein 3);N6-adenosine-methyltransferase 70 kDa subunit ; MT-A70 ; Methyltransferase-like protein 3 ;METTL3 MTA70
Observed Band	70kD
Calculated Molecular Weight	64kD
Cell Pathway	Nucleus
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]G AC-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 .

Background

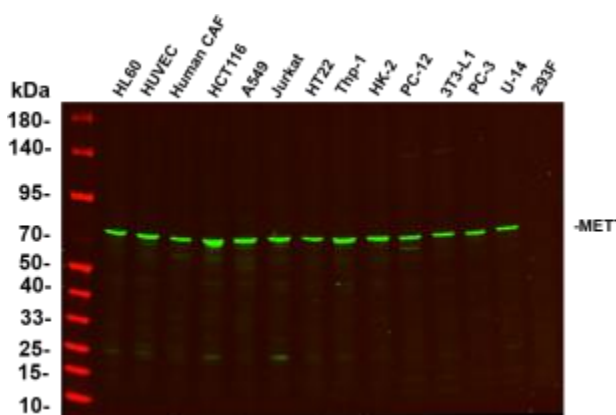
This gene encodes the 70 kDa subunit of MT-A which is part of N6-adenosine-methyltransferase. This enzyme is involved in the posttranscriptional methylation of internal adenosine residues in eukaryotic mRNAs, forming N6-methyladenosine. [provided by RefSeq, Jul 2008]

matters needing attention

Avoid repeated freezing and thawing!

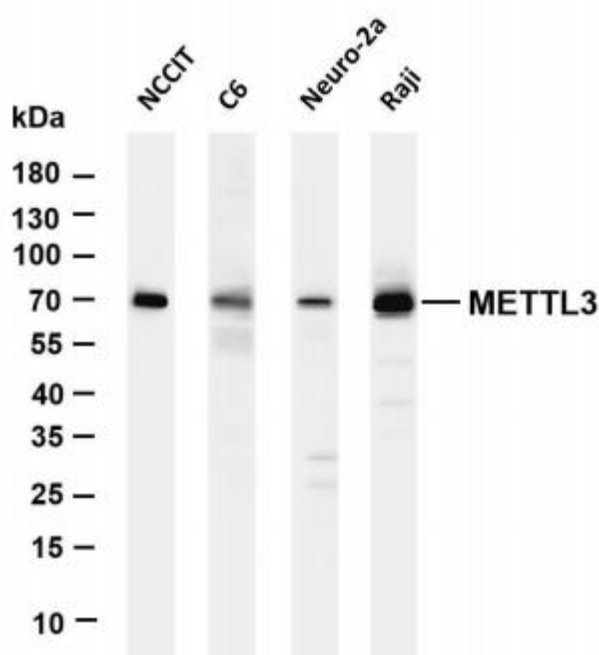
Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

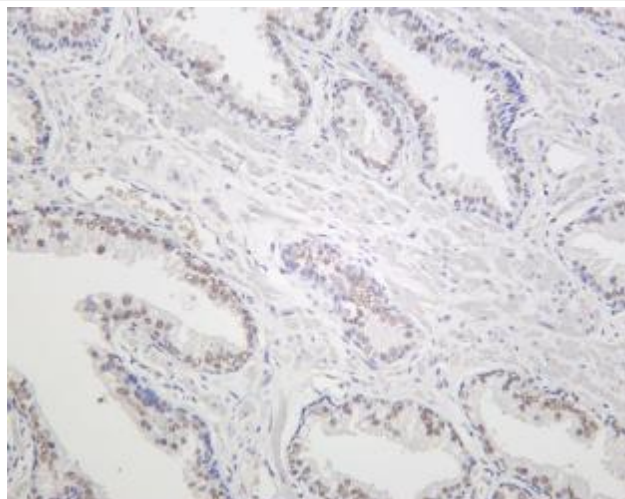


Various whole cell lysates were separated by 4-20% SDS-PAGE, and the primary antibody was used at 4 °C, over night with a 1:2500 dilution . The Dylight 800-conjugated Goat anti-Rabbit antibody

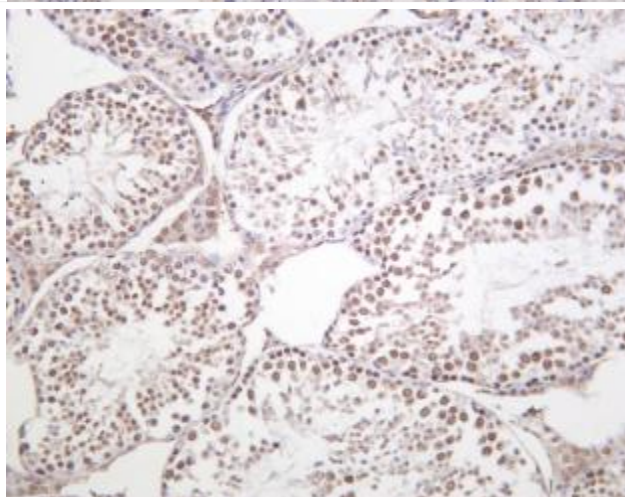




Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-METTL3 antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: NCCIT Lane 2: C6 Lane 3: Neuro-2a Lane 4: Raji Predicted band size: 64kDa Observed band size: 70kDa



Human prostate cancer was stained with Anti-METTL3 rabbit antibody



Mouse testis was stained with Anti-METTL3 rabbit antibody





Mouse testicles was stained with anti-METTL3 Rabbit antibody

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