

METTL3 Antibody

Catalog No: #49993



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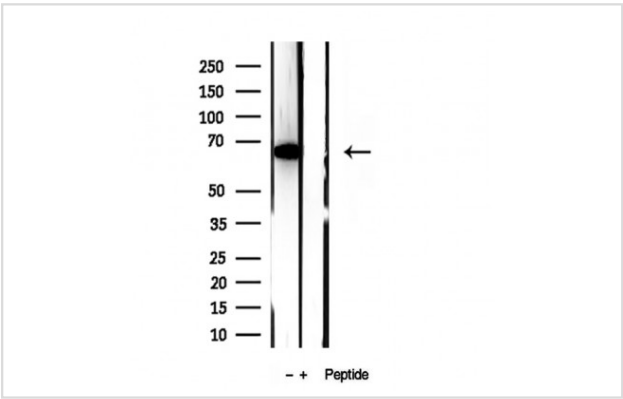
Description

Product Name	METTL3 Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Affinity purification
Applications	WB IHC
Species Reactivity	Hu Ms Rt
Specificity	METTL3 antibody detects endogenous levels of METTL3.
Immunogen Description	A synthesized peptide derived from human METTL3
Other Names	adoMet-binding subunit of the human mRNA (N6-adenosine)-methyltransferase; IME4; M6A; Methyltransferase like protein 3; Methyltransferase-like protein 3; METTL3; mRNA (2'-O-methyladenosine-N(6)-)-methyltransferase; mRNA m(6)A methyltransferase; MT-A70; MTA70; MTA70_HUMAN; N6 adenosine methyltransferase 70 kDa subunit; N6-adenosine-methyltransferase 70 kDa subunit;
Accession No.	Swiss-Prot#: Q86U44 NCBI Gene ID: 56339 NCBI mRNA#:NM_019852.4 NCBI Protein#: NP_062826.2
Uniprot	Q86U44
GeneID	56339;
Calculated MW	65-70 kDa
Concentration	1mg/ml
Formulation	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

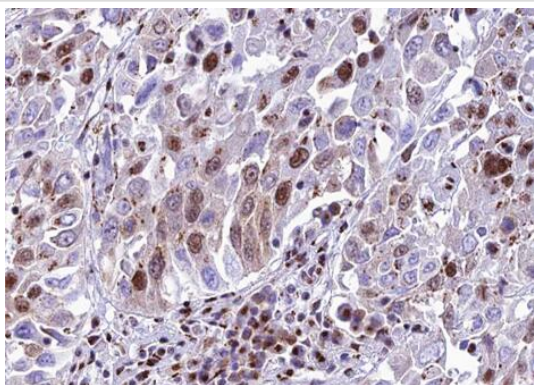
Application Details

WB: 1:500-1:2,000
IHC: 1:50-1:200

Images



Western blot analysis of extracts from HEK-293 cells, using METTL3 antibody. Lane2 was treated with the blocking peptide.



49993 at 1/100 staining human lung carcinoma tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Background

The METTL3-METTL14 heterodimer forms a N6-methyltransferase complex that methylates adenosine residues at the N6 position of some RNAs and regulates various processes such as the circadian clock, differentiation of embryonic and haematopoietic stem cells, cortical neurogenesis, response to DNA damage, differentiation of T-cells and primary miRNA processing (PubMed:22575960, PubMed:24284625, PubMed:25719671, PubMed:25799998, PubMed:26321680, PubMed:26593424, PubMed:27627798, PubMed:27373337, PubMed:27281194, PubMed:28297716, PubMed:9409616). In the heterodimer formed with METTL14, METTL3 constitutes the catalytic core (PubMed:27627798, PubMed:27373337, PubMed:27281194). 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 (PubMed:22575960, PubMed:24284625, PubMed:25719671, PubMed:25799998, PubMed:26321680, PubMed:26593424, PubMed:28297716, PubMed:9409616). 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 (PubMed:28637692). 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 regulates spermatogonial differentiation and meiosis and is essential for male fertility and spermatogenesis (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 (PubMed:28297716). 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). M6A also takes place in other RNA molecules, such as primary miRNA (pri-miRNAs) (PubMed:25799998). 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 (PubMed:25799998). 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 (PubMed:27117702). Its overexpression in a number of cancer cells suggests that it may participate to cancer cell proliferation by promoting mRNA translation (PubMed:27117702).

Note: This product is for in vitro research use only