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METTL14 Antibody (N-Term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22363a

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	Q9HCE5
Other Accession	A4IFD8, Q3UIK4, Q5R5N4
Reactivity	Human, Mouse
Predicted	Human, Mouse, Bovine, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB55130
Calculated MW	52150

Additional Information

Gene ID	57721
Other Names	N6-adenosine-methyltransferase subunit METTL14, 2.1.1.62, Methyltransferase-like protein 14, METTL14, KIAA1627
Target/Specificity	This METTL14 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 2-36 amino acids from the human region of human METTL14.
Dilution	WB~~1:2000 IHC-P~~1:250 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	METTL14 Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	METTL14 (HGNC:29330)
Function	The METTL3-METTL14 heterodimer forms a N6-methyltransferase complex that methylates adenosine residues at the N(6) position of some mRNAs and

regulates the circadian clock, differentiation of embryonic stem cells and cortical neurogenesis (PubMed:24316715, PubMed:24407421, PubMed:25719671, PubMed:27281194, PubMed:27373337, PubMed:29348140). In the heterodimer formed with METTL3, METTL14 constitutes the RNA-binding scaffold that recognizes the substrate rather than the catalytic core (PubMed:27281194, PubMed:27373337, PubMed:27627798, PubMed:29348140). N6-methyladenosine (m6A), which takes place at the 5'-[AG]GAC-3' consensus sites of some mRNAs, plays a role in mRNA stability and processing (PubMed:24316715, PubMed:24407421, PubMed:25719671). M6A acts as a key regulator of mRNA stability by promoting mRNA destabilization and degradation (By similarity). In embryonic stem cells (ESCs), m6A methylation of mRNAs encoding key naive pluripotency- promoting transcripts results in transcript destabilization (By similarity). M6A regulates spermatogonial differentiation and meiosis and is essential for male fertility and spermatogenesis (By similarity). 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).

Cellular Location Nucleus

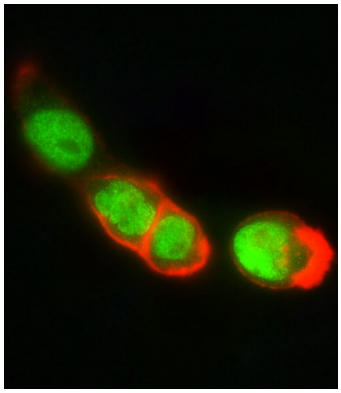
Background

N6-methyltransferase that methylates adenosine residues of some mRNAs and acts as a regulator of the circadian clock and self-renewal of embryonic stem cells. N6-methyladenosine (m6A), which takes place at the 5'-[AG]GAC-3' consensus sites of some mRNAs, plays a role in the efficiency of mRNA splicing and processing and mRNA stability. M6A regulates the length of the circadian clock: acts as a early pace-setter in the circadian loop M6A also acts as a regulator of mRNA stability: in embryonic stem cells (ESCs), m6A methylation of mRNAs encoding developmental regulators, results in transcript destabilization, maintaining the groung state of ESCs, thereby promoting self-renewal of ESCs.

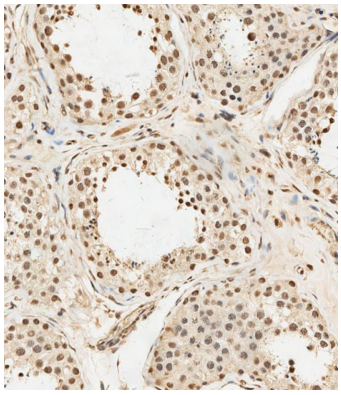
References

Nagase T.,et al.DNA Res. 7:273-281(2000).
Nakajima D.,et al.DNA Res. 9:99-106(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Hillier L.W.,et al.Nature 434:724-731(2005).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

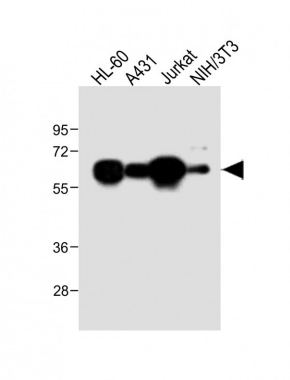
Images



Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized A431 cells labeling METTL14 with AP22363a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG secondary antibody at 1/200 dilution (green). Immunofluorescence image showing Nucleus staining on A431 cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin(red). The nuclear counter stain is DAPI (blue).



AP22363a staining METTL14 in human testis tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Samples were incubated with primary antibody (1/250) for 1 hours at room temperature. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



All lanes : Anti-METTL14 Antibody (N-Term) at 1:2000 dilution Lane 1: HL-60 whole cell lysate Lane 2: A431 whole cell lysate Lane 3: Jurkat whole cell lysate Lane 4: NIH/3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 52 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.