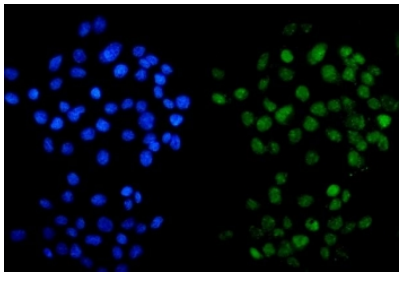
METTL14 Antibody / Methyltransferase like 14 (RQ6199)

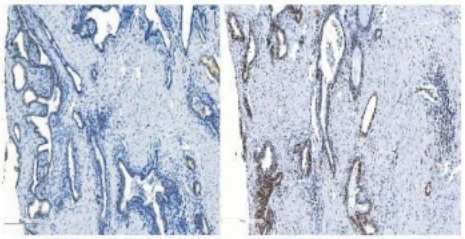
Catalog No.	Formulation	Size
RQ6199	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

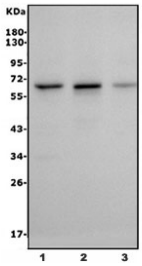
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.0125% sodium azide
UniProt	Q9HCE5
Localization	Nuclear
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Flow Cytometry : 1-3ug/million cells Immunofluorescence : 5ug/ml Immunoprecipitation : 2ug per 500ug of lysate Direct ELISA : 0.1-0.5ug/ml
Limitations	This METTL14 antibody is available for research use only.



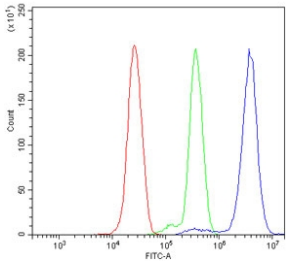
Immunofluorescent staining of FFPE human A431 cells with METTL14 antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



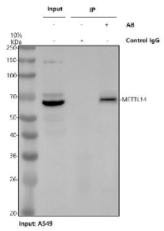
IHC staining of FFPE human breast cancer negative control (left) and with METTL14 antibody (right). HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of human 1) A549, 2) Raji and 3) A431 cell lysate with METTL14 antibody. Expected molecular weight: 52-65 kDa.



Flow cytometry testing of human ThP-1 cells with METTL14 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= METTL14 antibody.



Immunoprecipitation of METTL14 protein from 500ug of human A549 whole cell lysate with 2ug of METTL14 antibody.

Description

METTL14 antibody targets Methyltransferase like 14 (METTL14), a core component of the N6-methyladenosine (m6A) RNA methyltransferase complex that regulates post-transcriptional gene expression. METTL14 forms a stable heterodimer with METTL3, where it provides structural support and contributes to substrate RNA recognition required for efficient m6A deposition on messenger RNA. METTL14 localizes predominantly to the nucleus, consistent with its role in co-transcriptional and post-transcriptional RNA modification. As a member of the m6A writer complex, METTL14 is essential for controlling RNA stability, splicing, export, and translation.

Functionally, METTL14 influences diverse cellular processes by shaping the epitranscriptomic landscape. m6A modification affects the fate of thousands of transcripts involved in cell proliferation, differentiation, stress responses, and developmental programs. METTL14 expression is broadly observed across tissues, reflecting the widespread requirement for regulated RNA methylation in eukaryotic cells. Loss or reduction of METTL14 activity disrupts m6A patterns and leads to altered gene expression profiles, underscoring its importance in maintaining normal cellular function. A METTL14 antibody supports studies examining RNA methylation dynamics and gene regulation.

METTL14 plays a particularly important role during development and cell fate determination. Altered METTL14 expression has been linked to defects in stem cell maintenance, lineage commitment, and differentiation. Through its interaction with METTL3 and additional regulatory cofactors, METTL14 helps ensure precise targeting of m6A marks to

specific transcript regions. These coordinated interactions allow cells to rapidly adapt gene expression programs in response to developmental cues and environmental signals. A METTL14 antibody enables analysis of METTL14 expression and localization in developmental and regulatory contexts.

From a biological and disease-relevance perspective, METTL14 has been extensively studied for its involvement in cancer biology, metabolic regulation, and immune responses. Dysregulation of m6A methylation machinery, including METTL14, has been associated with tumor progression, altered cell survival pathways, and aberrant differentiation. METTL14-dependent m6A modification can influence oncogene and tumor suppressor transcript stability, highlighting its relevance in disease-associated gene regulation pathways.

At the molecular level, METTL14 is encoded by the METTL14 gene and produces a protein of approximately 400 amino acids. Although it contains a methyltransferase-like domain, METTL14 lacks key catalytic residues and primarily functions as an RNA-binding and structural component of the m6A writer complex. Regulation of METTL14 expression and activity occurs through transcriptional control, protein-protein interactions, and cellular context. A METTL14 antibody supports research applications focused on epitranscriptomic regulation, RNA biology, and gene expression control, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the METTL14 antibody should be determined by the researcher.

Immunogen

A human recombinant partial protein (amino acids Q12-D350) was used as the immunogen for the METTL14 antibody.

Storage

After reconstitution, the METTL14 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.