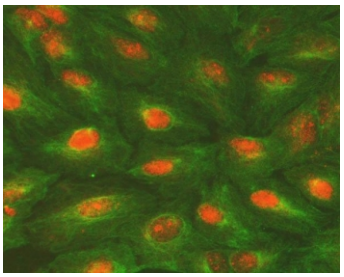
ALKBH5 Antibody / AlkB Homolog 5 Antibody (RQ5957)

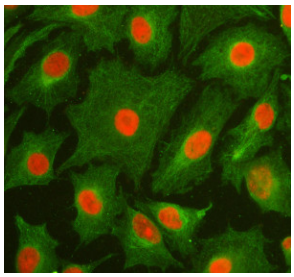
Catalog No.	Formulation	Size
RQ5957	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

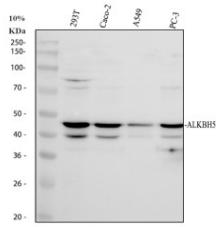
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6P6C2
Localization	Nuclear, cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml Immunoprecipitation: 2ug per 500ug of lysate
Limitations	This ALKBH5 Antibody / AlkB Homolog 5 Antibody is available for research use only.



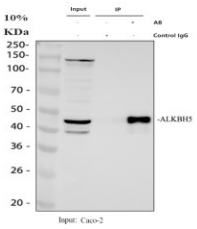
ALKBH5 Antibody IF in Human A549 Cells. Immunofluorescence staining of FFPE human A549 cells using the AlkB Homolog 5 Antibody (orange) and an alpha-tubulin monoclonal antibody (green). ALKBH5 staining is predominantly nuclear, while alpha-tubulin highlights the cytoplasmic microtubule network. Heat-induced epitope retrieval was performed by steaming in citrate buffer (pH 6.0) for 20 minutes.



ALKBH5 Antibody IF Showing Nuclear Localization in A549 Cells. Immunofluorescence analysis of human A549 cells using the AlkB Homolog 5 Antibody at 5 ug/ml, followed by a Cy3-conjugated secondary antibody (orange-red). Alpha-tubulin was detected using a mouse monoclonal antibody and a Fluoro488-conjugated secondary antibody (green). ALKBH5 staining is concentrated in the nuclei, with alpha-tubulin labeling the surrounding cytoplasm. Enzymatic antigen retrieval was performed for 15 minutes before staining.



ALKBH5 Antibody WB in Human Cell Lines. Western blot analysis of human 293T (lane 1), Caco-2 (lane 2), A549 (lane 3), and PC-3 (lane 4) whole cell lysates using the AlkB Homolog 5 Antibody at 0.25 ug/ml. Samples containing 30 ug of total protein per lane were separated by 10% SDS-PAGE under reducing conditions. A prominent band is detected at approximately 44 kDa in all four samples, consistent with the predicted molecular weight of ALKBH5.



ALKBH5 Antibody IP in Human Caco-2 Cells. Immunoprecipitation of ALKBH5 from human Caco-2 whole cell lysate using the AlkB Homolog 5 Antibody. Lane 1: Caco-2 input lysate (30 ug); lane 2: rabbit IgG control immunoprecipitation; lane 3: immunoprecipitation using 2 ug of anti-ALKBH5 antibody with 500 ug of lysate. Western blot detection was performed using the AlkB Homolog 5 Antibody at 0.5 ug/ml and an HRP-conjugated light chain-specific secondary antibody. A prominent band near 44 kDa is detected in the input and ALKBH5 immunoprecipitate, with no corresponding band in the control IgG lane, supporting successful enrichment of ALKBH5.

Description

ALKBH5 Antibody / AlkB Homolog 5 Antibody recognizes a protein involved in the reversible regulation of RNA methylation. ALKBH5 encodes AlkB homolog 5, an RNA demethylase that removes N6-methyladenosine (m6A) modifications from RNA. This enzyme belongs to the AlkB family of Fe(II)- and alpha-ketoglutarate-dependent dioxygenases and contributes to the dynamic control of RNA methylation, a post-transcriptional modification that influences gene expression and cellular function.

N6-methyladenosine is among the most abundant internal modifications of eukaryotic messenger RNA. Its deposition is primarily mediated by methyltransferase complexes containing METTL3 and METTL14, while proteins such as ALKBH5 and FTO can remove methyl groups from selected RNA substrates. ALKBH5 catalyzes oxidative demethylation of m6A, influencing the modification status of RNA molecules and potentially altering their processing, stability, localization, and translation. The biological consequences depend on the affected transcripts and the cellular context in which demethylation occurs.

ALKBH5 is predominantly localized to the nucleus, where it participates in the regulation of RNA metabolism. Its activity has been linked to mRNA processing, nuclear RNA export, and the organization of nuclear speckles. Studies of ALKBH5-deficient mice have demonstrated impaired male fertility, supporting an important role for RNA methylation dynamics in spermatogenesis. These findings illustrate how changes in RNA modification can influence tissue-specific gene expression programs and developmental processes.

ALKBH5 has also attracted attention in cancer biology because altered m6A regulation can affect transcripts involved in proliferation, differentiation, and cellular adaptation. Its expression and functional consequences vary among tumor types, with studies reporting both tumor-promoting and tumor-suppressive activities depending on the biological context. ALKBH5 has additionally been investigated in hypoxia-associated signaling and stem cell regulation, where RNA demethylation can influence adaptive gene expression. Understanding its activity contributes to research on

epitranscriptomic regulation and the relationship between RNA modifications and cellular behavior. NSJ Bioreagents offers this ALKBH5 Antibody for investigating the mechanisms through which reversible RNA methylation contributes to post-transcriptional gene regulation.

Explore related proteins involved in RNA modification, epigenetic regulation, and gene expression in our Epigenetics Antibodies collection.

Application Notes

Optimal dilution of the ALKBH5 Antibody / AlkB Homolog 5 Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids E81-R180) was used as the immunogen for the ALKBH5 antibody.

Storage

After reconstitution, the ALKBH5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

RNA demethylase ALKBH5 antibody, AlkB homolog 5 antibody, Alkylated DNA repair protein AlkB homolog 5 antibody, m6A RNA demethylase antibody

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