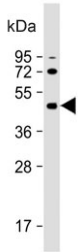
RNA Demethylase ALKBH5 Antibody / ALKBH5 Polyclonal Antibody (F54722)

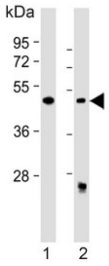
Catalog No.	Formulation	Size
F54722-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F54722-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

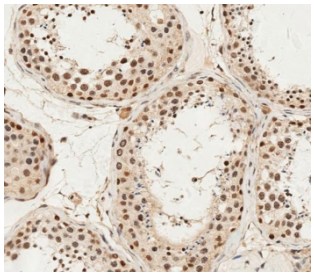
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity purified
UniProt	Q6P6C2
Localization	Nuclear, cytoplasmic
Applications	Western blot: 1:500-1:2000 Flow cytometry: 1:25 (1x10e6 cells) Immunohistochemistry (FFPE): 1:50-1:100
Limitations	This RNA Demethylase ALKBH5 Antibody / ALKBH5 Polyclonal Antibody is available for research use only.



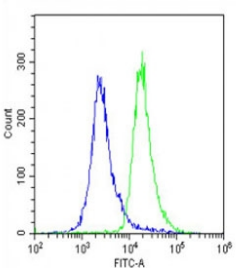
RNA Demethylase ALKBH5 Antibody WB in Human HEK293 Cells. Western blot analysis of human HEK293 cell lysate using the ALKBH5 Polyclonal Antibody. A prominent band is detected at approximately 45-50 kDa, near the predicted molecular weight of ALKBH5 (~52 kDa). An additional band is visible near 75 kDa.



Western blot testing of human 1) HeLa and 2) MCF7 cell lysate with ALKBH5 antibody. Predicted molecular weight: ~52 kDa.



RNA Demethylase ALKBH5 Antibody IHC in Human Testis. Immunohistochemical staining of FFPE human testis tissue using the ALKBH5 Polyclonal Antibody. Predominantly nuclear brown staining is observed in cells lining the seminiferous tubules, with variable staining intensity among different cell populations. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer (pH 6.0) for 20 minutes, followed by cooling before staining.



RNA Demethylase ALKBH5 Antibody FACS in Human U-2 OS Cells. Flow cytometry analysis of fixed and permeabilized human U-2 OS cells using the ALKBH5 Polyclonal Antibody. The antibody-stained population (green) shows a clear rightward fluorescence shift relative to the isotype control (blue), indicating intracellular ALKBH5 detection.

Description

RNA Demethylase ALKBH5 Antibody / ALKBH5 Polyclonal Antibody recognizes an enzyme involved in the removal of N6-methyladenosine (m6A) modifications from RNA. ALKBH5 belongs to the AlkB family of iron-dependent dioxygenases and catalyzes oxidative demethylation using Fe(II), alpha-ketoglutarate, and molecular oxygen. Through this activity, ALKBH5 contributes to the regulation of RNA methylation patterns and influences the expression of genes involved in development, differentiation, and cellular responses to environmental conditions.

RNA methylation is an important component of post-transcriptional gene regulation. The m6A modification can influence transcript stability, splicing, nuclear export, and translation through interactions with specialized RNA-binding proteins. ALKBH5 counteracts methylation on selected RNA substrates, potentially changing how those transcripts are recognized and processed. Its effects depend on the identity of the modified RNA, the availability of m6A-binding proteins, and the broader regulatory environment. Consequently, ALKBH5-mediated demethylation does not produce a uniform effect on gene expression but contributes to transcript-specific regulatory mechanisms.

ALKBH5 is predominantly nuclear and has been associated with nuclear speckles, structures enriched in RNA-processing factors. Its localization supports a role in coordinating RNA modification with nuclear transcript metabolism. Studies of ALKBH5 deficiency have demonstrated abnormalities in spermatogenesis and reduced male fertility, highlighting the importance of regulated RNA methylation during germ cell development. ALKBH5 has also been investigated in stem cell biology, where changes in m6A abundance can influence differentiation programs and the maintenance of specific cellular states.

In cancer research, ALKBH5 has been linked to hypoxia-responsive gene regulation, tumor cell adaptation, and the maintenance of cancer stem-like populations in certain experimental models. However, its biological effects vary considerably among cancer types and cellular contexts. Some studies associate ALKBH5 activity with tumor progression, while others describe mechanisms through which it restricts malignant behavior. These findings underscore the complexity of RNA methylation as a regulatory system. NSJ Bioreagents offers this RNA Demethylase ALKBH5 Antibody

for investigating the relationship between m6A modification, transcript processing, and context-dependent gene expression.

For additional research options, explore our ALKBH5 Antibody, which has been evaluated for nuclear localization and protein detection in multiple human cell lines.

Application Notes

The stated application concentrations are suggested starting points. Titration of the ALKBH5 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 302-330 from the human protein was used as the immunogen for the ALKBH5 antibody.

Storage

Aliquot the ALKBH5 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

AlkB homolog 5 antibody, N6-methyladenosine RNA demethylase antibody, AlkB family member 5 antibody, RNA m6A demethylase antibody

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