Revision 1

Store at -20C

#56593

N6-Methyladenosine (m6A) (D9D9W) Rabbit mAb

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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:
R Dot Blot	All	Endogenous	Rabbit IgG

Product Usage Information

This antibody has been shown by an independent laboratory to work in RNA-IP-seq. Please use at an assay-dependent dilution.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

N6-Methyladenosine (m6A) (D9D9W) Rabbit mAb recognizes endogenous levels of N6-methyladenosine (m6A). This antibody has been validated using ELISA and dot blot assays and shows high specificity for m6A. This antibody does not cross-react with unmodified adenosine, N6-dimethyladenosine, N1-methyladenosine, or 2'-O-methyladenosine.

Source / Purification

Monoclonal antibody is produced by immunizing animals with N6-methyladenosine.

Background

N6-methyladenosine (m6A) is a post-transcriptional modification found in various RNA subtypes. While the presence of m6A in RNA was described decades ago, the lack of tools has made interrogating the epitranscriptomic landscape challenging (1,2). With the emergence of new technologies such as miCLIP and NG-RNA-seq, researchers have been able to show that m6A is a biologically relevant mark in mRNA that is enriched in 3' UTRs and stop codons (3,4). The m6A writer complex consists of a core heterodimer of methyltransferase-like protein 3 (METTL3) and methytransferase-like protein 14 (METTL14), and the additional regulatory proteins Virlizer/VIRMA and Wilms tumor 1-associated protein (WTAP) (5). METTL3 is the catalytic methyltransferase subunit and METTL14 is the target recognition subunit that binds to RNA (6). The Virilzer/VIRMA protein directs m6A methylation to the 3' UTRs and stop codons, and WTAP targets the complex to nuclear speckles, which are sites of RNA processing (7). Less is known about readers and erasers of m6A, and while the fat mass and obesity-associated protein FTO was the first discovered m6A demethylase, subsequent studies demonstrated that this enzyme may prefer the closely related m6Am mark *in vivo* (8,9). ALKBH5 was later shown to be a bona fide m6A demethylase enzyme, contributing to the idea that the m6A modification is dynamically regulated (10). Readers of the m6A mark include the YTH protein family, which can bind to m6A and influence mRNA stability and translation efficiency (3,11-13). The m6A mark and machinery have been shown to regulate a variety of cellular functions, including RNA splicing, translational control, pluripotency and cell fate determination, neuronal function, and disease (1, 14-17). The m6A writer complex has been linked to various cancer types including AML and endometrial cancers (18,19). Additionally, m6A has been implicated in resistance to chemotherapy (20).

Background References

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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

R Dot Blot: RNA Dot Blot

Cross-Reactivity Key

All: All Species Expected

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