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N6-methyladenosine (m6A) Monoclonal Antibody [2H6]

(Catalog A-1802)

Background
N6-methyladenosine (m6A) is the most common and abundant modification in RNA molecules present in eukaryotes. The m6A modification is catalyzed by a methyltransferase complex METTL3 and removed by the recently discovered m6A RNA demethylases FTO and ALKBH5, which catalyze m6A demethylation in an α-ketoglutarate (α-KG)- and Fe2+-dependent manner. It was shown that METTL3, FTO, and ALKBH5 play essential roles in many biological processes, ranging from development and metabolism to fertility. m6A accounts for more than 80% of all RNA base methylations and exists in various species. m6A is mainly distributed in mRNA and also occurs in non-coding RNA such as tRNA, rRNA, and snRNA. The relative abundance of m6A in mRNA transcripts has been shown to affect RNA metabolism processes such as splicing, nuclear export, translation ability and stability, and RNA transcription. Abnormal m6A methylation levels induced by defects in m6A RNA methylase and demethylase could lead to dysfunction of RNA and diseases. For example, abnormally low levels of m6A in target mRNAs due to increased FTO activity in patients with FTO mutations, through an as-yet-undefined pathway, contributes to the onset of obesity and related diseases. The dynamic and reversible chemical m6A modification in RNA may also serve as a novel epigenetic marker of profound biological significance. Therefore, more useful information for a better understanding of m6A RNA methylation levels and distribution on RNA transcripts could benefit diagnostics and therapeutics of disease.

Description
N6-methyladenosine (m6A) Monoclonal Antibody, clone 2H6. Unconjugated. Raised in: Rabbit.

Formulation
Buffer: PBS with 0.05% proclin 300, 0.05% BSA*, 50% glycerol, pH7.3.

Specificity
Species independent

Isotype
IgG

Purification
Protein A

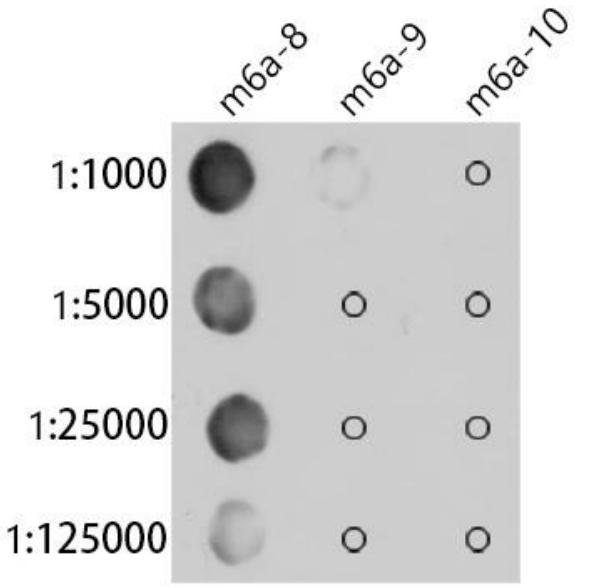
Immunogen
Chemical compounds corresponding to N6-methyladenosine / m6A

Storage
Shipped at 4°C. Upon delivery store at 20°C. Avoid repeated freeze/thaw cycles.

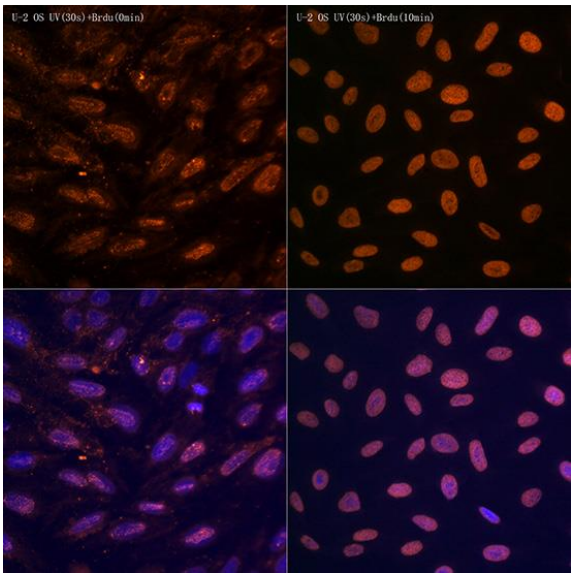
Alternative Names
Anti-N6-methyladenosine, N6-methyladenosine, N6(methylnitroso)adenosine, m6A, N6-methyladenosine, 6mA

Application
ELISA, DB, IF, MeRIP, Nucleotide Array; Recommended dilution: DB: 1:500 - 1:2000, IF: 1:50 - 1:200;
meRIP 1:50 - 1:200, ELISA - recommended starting concentration is 1 µg/mL. Please optimize the concentration based on your specific assay requirements.

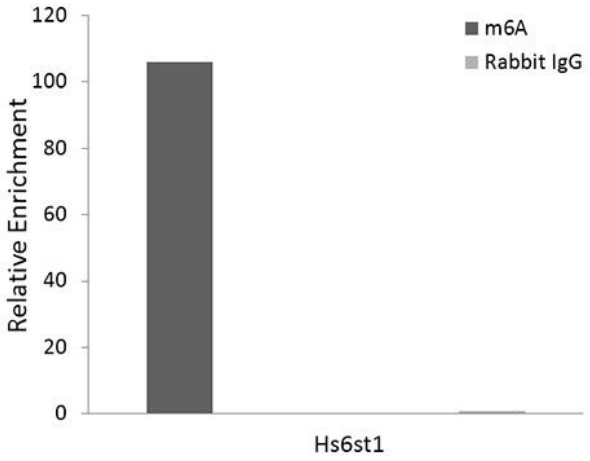
**The BSA contained in this antibody is exempt from the requirement of certification by an authoritative body. This exemption is due to the comprehensive purification process, which ensures the complete absence of viable microorganisms, the BSA's sourcing from aseptically collected serum in the USA, and its subsequent sterile filtration and lyophilization. Additionally, as all BSA-containing products are strictly intended for research purposes and not for diagnostic or therapeutic use, they are not subject to certification authority oversight.*



The N6-methyladenosine (m6A) Monoclonal Antibody is tested in Dot Blot against N6-methyladenosine (m6A) and unmodified adenosine.
Oligomer 8 - ATAACTGG-m6A-CCGAATGG
Oligomer 9 - ATAACTGGACCGAATGG
Oligomer 10 - AAAAAAAAAAAAAAAA-biotin.



Immunofluorescence analysis of U-2 OS treated with UV(30s)+Brdu(0min) and U-2 OS treated with UV(30s)+Brdu(10min) cells using N6-methyladenosine (m6A) Monoclonal Antibody at dilution of 1:100 (40x lens). Secondary antibody: Cy3-conjugated Goat anti-Rabbit IgG (H+L) at 1:500 dilution. Blue: DAPI for nuclear staining.



RNA Immunoprecipitation was performed on 100 µg mouse liver total RNA, using 5 µg of the N6-methyladenosine (m6A) Monoclonal Antibody. An equal amount of IgG was used as negative control. The immunoprecipitated RNA was verified by using HS6ST1 as PCR primer of qRT-PCR. The picture shows the relative enrichment multiple of HS6ST1 site.