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Product datasheet

m6A RNA Methylation Assay Kit (Fluorometric) ab233491

2 References 1 Image

Overview

Product name	m6A RNA Methylation Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Other biological fluids, Tissue, Adherent cells, Suspension cells
Assay type	Quantitative
Sensitivity	5 pg/well
Assay time	3h 45m
Product overview	m6A RNA Methylation Assay Kit (Fluorometric) (ab233491) is a complete set of optimized buffers and reagents to fluorometrically quantify methylated N6-methyladenosine (m6A) in RNA. It is suitable for a direct detection of m6A RNA methylation status using total RNA isolated from any species such as mammals, plants, fungi, bacteria and viruses. This kit contains a unique binding solution allowing RNA >70 nts to be tightly bound to the wells, which enables quantification of m^6A from both mRNA and nc-RNA such as tRNA, rRNA and snRNA. The optimized antibody and enhancer solutions allow high specificity to m^6A, with no cross-reactivity to unmethylated adenosine within the indicated concentration range of the sample RNA. Also included are universal positive and negative controls which are suitable for quantifying m^6A from any species.
Notes	N6-methyladenosine (m^6A) is the most common and abundant modification in RNA molecules present in eukaryotes. The m^6A modification is catalyzed by a methyltransferase complex METTL3 and removed by the recently discovered m^6A RNA demethylases FTO and ALKBH5, which catalyze m^6A demethylation in an α-ketoglutarate (α-KG)- and Fe2+-dependent manner. It was shown that METTL3, FTO, and ALKBH5 play important roles in many biological processes, ranging from development and metabolism to fertility. m^6A accounts for more than 80% of all RNA base methylations and exists in various species. m^6A is mainly distributed in mRNA and also occurs in non-coding RNA such as tRNA, rRNA, and snRNA. The relative abundance of m^6A in mRNA transcripts has been shown to affect RNA metabolism processes such as splicing, nuclear export, translation ability and stability, and RNA transcription. Abnormal m^6A methylation levels induced by defects in m^6A RNA methylase and demethylase could lead to dysfunction of RNA and diseases. For example, abnormally low levels of m^6A 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 m^6A RNA methylation levels and distribution on RNA transcripts could benefit diagnostics and therapeutics of disease.

Platform Microplate reader

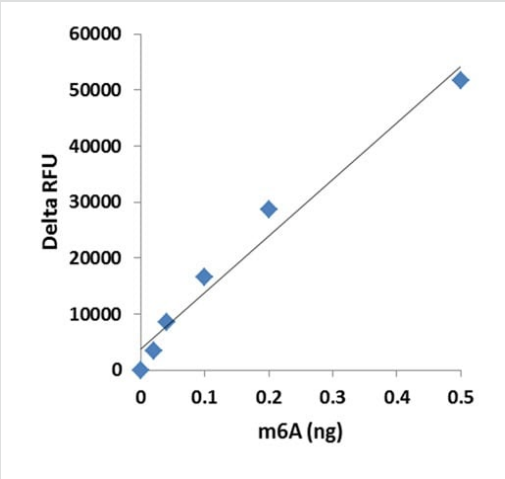
Properties

Storage instructions Please refer to protocols.

Components	1 x 48 tests	1 x 96 tests
10X Wash Buffer	1 x 14ml	1 x 28ml
8-Well Assay Strips (With Frame)	6 units	12 units
Binding Solution	1 x 5ml	1 x 10ml
Capture Antibody, 1000 X	1 x 5µl	1 x 10µl
Detector Antibody, 1000 X	1 x 6µl	1 x 12µl
Dilution Buffer	1 x 4ml	1 x 8ml
Enhancer Solution	1 x 5µl	1 x 10µl
Fluoro Developer	1 x 8µl	1 x 16µl
Fluoro Enhancer	1 x 8µl	1 x 16µl
Negative Control, 100 µg/mL	1 x 10µl	1 x 20µl
Positive Control, m6A 2 µg/mL	1 x 10µl	1 x 20µl

Relevance N6-Methyladenosine (m6A) is an abundant modification found in mRNA, tRNA, snRNA, as well as long non-coding RNA, in all species. RNA adenosine methylation is catalyzed by a multicomponent complex composed of METTL3/MT-A70, METTL14, and WTAP in mammals. METTL3 & METTL14 are responsible for the methyltransferase activity of the complex, and WTAP mediates substrate recruitment.

Images



Example of a standard curve generated with m6A RNA Methylation Assay Kit (ab233491).

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