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Product datasheet

m6A DNA Methylation Assay Kit (Colorimetric) ab233488

2 References 2 Images

Overview

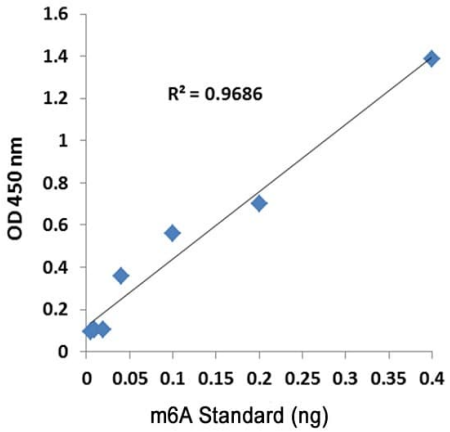
Product name	m6A DNA Methylation Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	DNA
Assay type	Quantitative
Product overview	m6A DNA Methylation Assay Kit (Colorimetric)(ab233488) kit contains all reagents necessary for the quantification of m6A in DNA. In this assay, DNA is bound to strip wells using DNA high binding solution. m6A is detected using capture and detection antibodies. The detected signal is enhanced and then quantified colorimetrically by reading the absorbance in a microplate spectrophotometer. The amount of m6A is proportional to the OD intensity measured.
Notes	N 6 -methyladenosine (m6A) is the most common and abundant modification on RNA molecules present in eukaryotes. DNA m 6A is also identified in multicellular eukaryotes including Caenorhabditis elegans and Drosophila melanogaster, and furthermore identified in higher eukaryotes including plants, mouse and human cells. m6A plays crucial roles in regulating DNA replication, transposition, transcription, and cellular defense. In humans, the DNA m 6A modification is most likely catalyzed by a methyltransferase complex METTL3 and removed by the α-ketoglutarate (α-KG)- and Fe2+ -dependent dioxygenases such as ALKBH5 and TET-like enzymes. It was shown that METTL3 and α-KG /Fe2+ - dependent dioxygenases play important roles in many biological processes, ranging from development and metabolism to fertility. The dynamic and reversible chemical m6A modification on DNA may also serve as a novel epigenetic marker of profound biological significance. Down-regulation of m 6A modification was first characterized in human cancer cells and tissues, relative to their normal controls. m 6A is found to be the most regulated DNA modification in cancers. In addition to the regulation in cancer cells, relative to the primary cell/tissues which contain quite low amounts of DNA m 6A (<0.001%), a hundreds-fold increase of m 6A modification was found for in vitro cultured human cells (0.03%-0.22%). Therefore, identifying m 6A DNA methylation levels and distribution on DNA could advance understanding of epigenetic regulation of biological process at the genomic level, and further provide useful information for improving diagnostics and therapeutics of disease.
Platform	Microplate reader

Properties

Storage instructions Please refer to protocols.

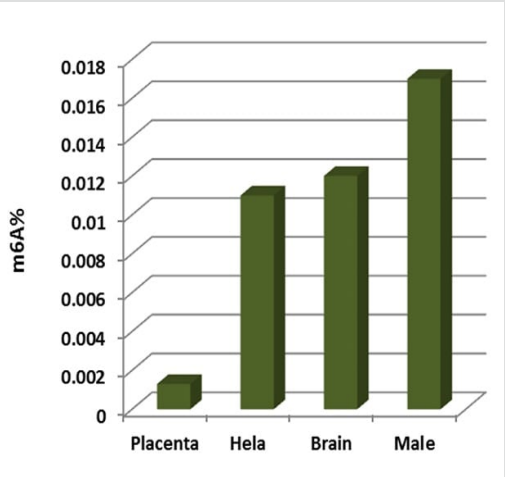
Components	1 x 48 tests	1 x 96 tests
10X Wash Buffer	1 x 14ml	1 x 28ml
8-Well Assay Strips (With Frame)	6 units	12 units
Binding Solution	1 x 5ml	1 x 10ml
Capture Antibody, 1000 X	1 x 5µl	1 x 10µl
Detection Antibody, 1000 X	1 x 6µl	1 x 12µl
Developer Solution	1 x 5ml	1 x 10ml
Enhancer Solution	1 x 5µl	1 x 10µl
Negative DNA Control, 100 µg/ml	1 x 10µl	1 x 20µl
Positive Control, 200 µg/ml containing m6A 1 µg/ml	1 x 10µl	1 x 20µl
Stop Solution	1 x 5ml	1 x 10ml

Images



Example of a m6A standard curve.

m6A standard control was added into the assay wells at different concentrations and then measured with the m6A DNA Methylation ELISA Kit (Colorimetric) (ab233488).



Quantification of m 6A content of various human DNA samples with the m6A DNA Methylation ELISA Kit (Colorimetric).

Quantification of m 6A content of various human DNA samples with the m6A DNA Methylation ELISA Kit (Colorimetric) (ab233488).

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