

Product datasheet

Hydroxymethylated DNA Quantification Kit (Colorimetric) ab117130

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Overview

Product name	Hydroxymethylated DNA Quantification Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Saliva, Urine, Serum, Plasma, Tissue, Adherent cells, Suspension cells
Assay type	Quantitative
Sensitivity	>= 40 pg/well
Assay time	3h 45m

Product overview

DNA methylation is a covalent modification of the cytosine ring at the 5' position, resulting in 5-methylcytosine (5-mC). In somatic cells, 5-mC is found almost exclusively in the context of paired symmetrical methylation of the dinucleotide CpG. The biological importance of 5-mC as a major epigenetic modification in phenotype and gene expression has been recognized widely. Quite recently, a novel modified nucleotide, 5-hydroxymethylcytosine (5-hmC), has been detected to be abundant in mouse brain and embryonic stem cells. It is a hydroxylated and methylated form of cytosine. Although it is still uncertain its specific role in epigenetics, it is believed it plays a role in DNA demethylation, chromatin remodeling and gene expression regulation.

Abcam's Hydroxymethylated DNA Quantification Kit (Colorimetric) (ab117130) is a complete set of optimized buffers and reagents to quantify global DNA hydroxymethylation by specifically measuring levels of 5-hydroxymethylcytosine (5-hmC) without cross-reactivity to methylcytosine and unmethylated cytosine.

It can be paired to use with **Methylated DNA Quantification Kit (Colorimetric) (ab117128)**, which specifically quantifies 5-mC, for simultaneous quantification of both methylated and hydroxymethylated DNA.

Platform Microplate reader

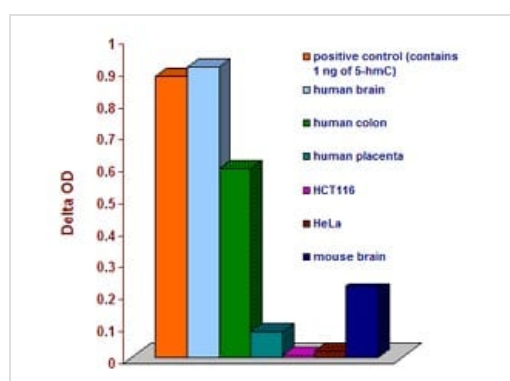
Properties

Storage instructions Please refer to protocols.

Components	48 tests	96 tests
10X Wash Buffer	1 x 14ml	1 x 28ml

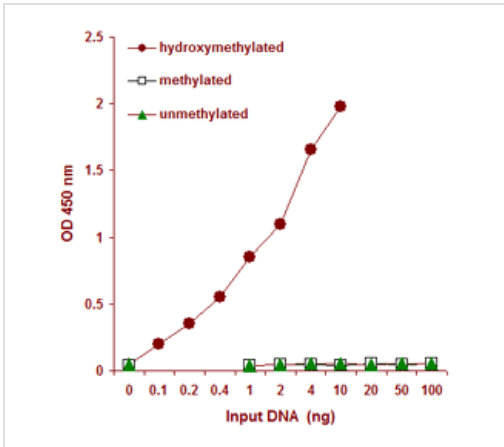
Components	48 tests	96 tests
8-Well Assay Strips (with Frame)	6 units	12 units
Binding Solution	1 x 5ml	1 x 10ml
Capture Antibody, 1000 µg/mL	1 x 4µl	1 x 8µl
Detection Antibody, 400 µg/mL	1 x 8µl	1 x 16µl
Developer Solution	1 x 5ml	1 x 10ml
Enhancer Solution	1 x 8µl	1 x 16µl
Negative Control I, 20 µg/mL	1 x 10µl	1 x 20µl
Negative Control II, 20 µg/mL	1 x 10µl	1 x 20µl
Positive Control, 20 µg/mL	1 x 10µl	1 x 20µl
Stop Solution	1 x 5ml	1 x 10ml

Images



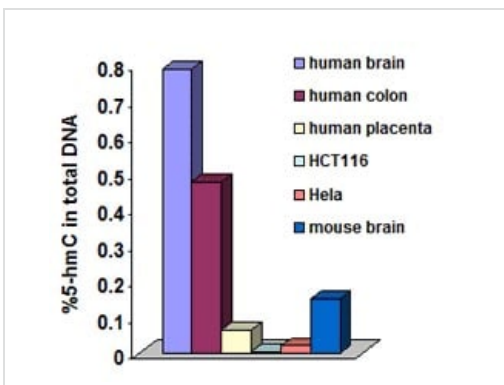
Functional Studies - Hydroxymethylated DNA Quantification Kit (Colorimetric) (ab117130)

Demonstration of a high abundance of 5-hydroxymethylcytosine in human brain and colon tissues. 200 ng of DNA isolated from different tissues or cells were added into the assay wells and the hydroxymethylated fraction of DNA was measured using the ab117130. OD intensity measured in variety of DNA samples.



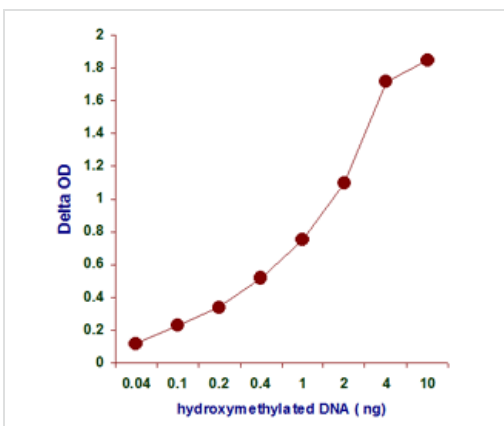
Functional Studies - Hydroxymethylated DNA Quantification Kit (Colorimetric) (ab117130)

Demonstration of high specificity of 5-hydroxymethylcytosine detection achieved using ab117130. Synthetic unmethylated DNA (contains only cytosine), methylated DNA (contains only 5-methylcytosine), and hydroxymethylated DNA standard (contains only 5-hydroxymethylcytosine) were added into the assay wells at different concentrations and then measured with ab117130.



Functional Studies - Hydroxymethylated DNA Quantification Kit (Colorimetric) (ab117130)

Demonstration of a high abundance of 5-hydroxymethylcytosine in human brain and colon tissues. 200 ng of DNA isolated from different tissues or cells were added into the assay wells and the hydroxymethylated fraction of DNA was measured using ab117130. Percentage of hydroxymethylated DNA in various tissues and cells.



Functional Studies - Hydroxymethylated DNA Quantification Kit (Colorimetric) (ab117130)

Demonstration of high sensitivity of 5-hydroxymethylcytosine detection achieved using ab117130. Synthetic hydroxymethylated DNA was added into the assay wells at different concentrations and then measured with the ab117130.

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