abcam

Product datasheet

Hydroxymethylated DNA Immunoprecipitation (hMeDIP) Kit ab117134

3 References 2 Images

Overview

Product name	Hydroxymethylated DNA Immunoprecipitation (hMeDIP) Kit
Assay time	3h 00m
Species reactivity	**Reacts with:** Mouse, Human
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 important 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. Hydroxymethylated DNA Immunoprecipitation (hMeDIP) Kit (ab117134) enables the user to enrich ***hydroxymethated DNA*** using an antibody specific to hydroxymethylcytosine (5-hmC) to immunoprecipitate hydroxymethylated genomic DNA *hMeDIP*. The enriched hydroxymethylated fractions can be used in various downstream applications including PCR (hMeDIP-PCR) and microarrays (hMeDIP-chip) for investigating gene-specific hydroxymethylation in cells or tissues.

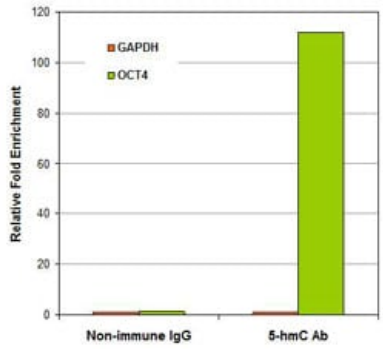
Properties

Storage instructions	Please refer to protocols.

Components	24 tests	48 tests	96 tests
10X Wash Buffer	1 x 5ml	1 x 10ml	1 x 20ml
5-hmC Antibody, 0.6 mg/mL	1 x 25µl	1 x 50µl	1 x 100µl
8-Well Assay Strips (with Frame)	3 units	6 units	12 units
Adhesive 8-Well Strip Film	3 units	6 units	12 units
Antibody Buffer	1 x 4ml	1 x 8ml	1 x 16ml

Components	24 tests	48 tests	96 tests
Control DNA, 500 ng/mL	1 x 5µl	1 x 10µl	1 x 20µl
Control Primer-Forward, 20 µM	1 x 5µl	1 x 10µl	1 x 20µl
Control Primer-Reverse, 20 µM	1 x 5µl	1 x 10µl	1 x 20µl
DNA Release Buffer	1 x 7ml	1 x 14ml	1 x 28ml
hMeDIP Solution	1 x 3ml	1 x 6ml	1 x 12ml
Non-Immune IgG ,0.6 mg/mL	1 x 10µl	1 x 20µl	1 x 40µl
Proteinase K, 10 mg/mL	1 x 28µl	1 x 56µl	1 x 112µl

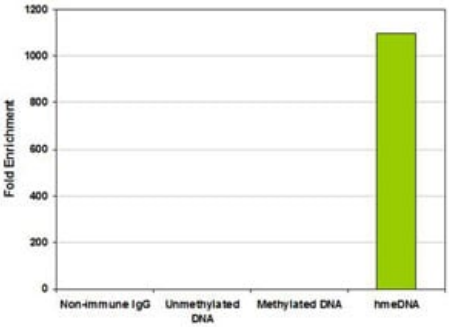
Images



Functional Studies - Hydroxymethylated DNA Immunoprecipitation (hMeDIP) Kit (ab117134)

Sensitive detection of gene-specific hydroxymethylation by hMeDIP-QPCR.

Human brain DNA (500 ng) was fragmented to 200-600 bps with a sonicator. The fragmented DNA was used for hydroxymethylated DNA enrichment with ab117134. Eluted DNA was analyzed by real time PCR with primers specifically for OCT4 or GAPDH sequences in the promoter regions. Results show that the promoter region is hydroxymethylated in OCT4 but not in GAPDH.



Functional Studies - Hydroxymethylated DNA Immunoprecipitation (hMeDIP) Kit (ab117134)

Selective enrichment of hydroxymethyated DNA with ab117134.

50 pg of unmethylated, methylated, and hydroxymethylated DNA control were spiked into fragmented human genomic DNA (500 ng). hMeDIP was processed using 5-hmC antibody and non-immune IgG included in the kit. Eluted DNA was analyzed by real time PCR using control primers included in the kit to detect the presence of spiked control DNA.

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