

5-Methylcytosine (5-mC) antibody (mAb)

Catalog Nos: 61479, 61480

RRID: AB_2793653

Clone: A1

Isotype: IgG1

Application(s): DB, IF, MeDIP

Reactivity: Human, Not Species Specific

Quantities: 100 µg, 10 µg

Purification: Protein A Chromatography

Host: Mouse

Concentration: 1 µg/µl

Background: **5-Methylcytosine** (5-mC) is a modified base that is found in the DNA of plants and vertebrates. DNA methylation is an epigenetic event in which DNA methyltransferases (DNMTs) catalyze the reaction of a methyl group to the fifth carbon of cytosine in a CpG dinucleotide. This modification helps to control gene expression and is also involved in genomic imprinting, while aberrant DNA methylation is often associated with disease. The 5-methylcytidine antibody (Clone A1) has been developed to discriminate between the modified base and its normal cytosine counterpart, allowing for gene promoter methylation analysis.

Immunogen: This 5-Methylcytosine (5-mC) antibody was raised against 5-Methyl-cytidine conjugated to KLH and recognizes 5-Methylcytosine.

Buffer: Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:

Applications Validated by Active Motif:

MeDIP: 1 - 2 µg per IP

MeDIP-Seq: 1 - 2 µg each

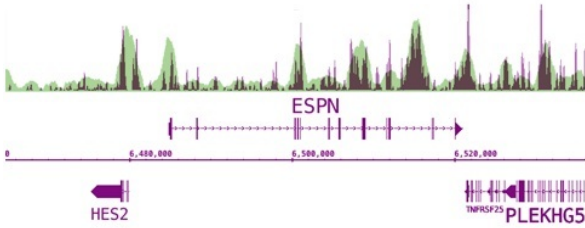
DB: 0.5 - 2 µg/ml dilution

In MeDIP, the DNA must be denatured when using this antibody. For 5-methylcytosine, we also offer AbFlex® 5-methylcytosine Recombinant Antibody (rAb). For details, see Catalog No. 91187.

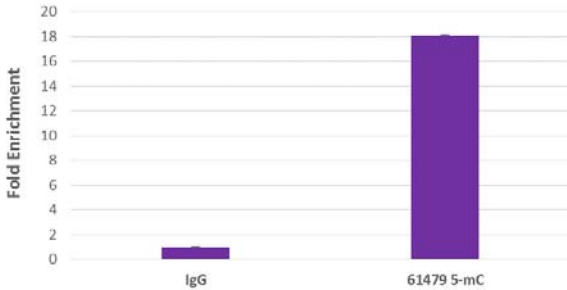
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

Next-Gen sequencing data generated using 5-Methylcytosine (5-mC) antibody (mAb) correlates well with CpG density.



DNA was enriched from 1 ug of denatured, adaptor ligated human PC9 cell DNA using 2 ul of the 5-Methylcytosine (5-mC) antibody (mAb). MeDIP DNA was sequenced using the Illumina platform to generate 26 million sequence tags. Tags were mapped to generate a whole-genome DNA methylation profile. The image above shows that the enriched regions (purple peaks) correlate well with CpG density (green overlay).

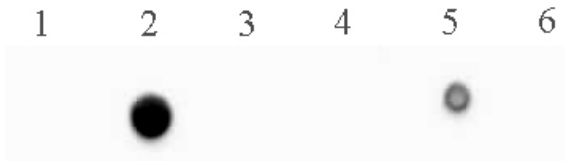


5-Methylcytosine (5-mC) antibody (mAb) tested by Methyl-DNA Immunoprecipitation (MeDIP).

Methylated DNA derived from the promoter of the APC gene was amplified using 5me-dCTP and PCR. 25pg of methylated DNA was spiked into 500 ng of MseI digested human genomic DNA and subjected to the MeDIP procedure using 5µg of 5-Methylcytosine antibody or control mouse IgG. Real time quantitative PCR to amplify the methylated APC promoter DNA was performed on the immunoprecipitated DNA and results plotted as Fold Enrichment over control IgG.

5-Methylcytosine (5-mC) antibody (mAb) tested by dot blot analysis.

DNA from the Methylated DNA Standard Kit (Catalog No. 55008) were spotted (5 ng per spot) on to a positively charged nylon membrane and blotted with 5-Methylcytosine antibody (2 µg/ml dilution).



- Lane 1: single-stranded unmethylated DNA.
- Lane 2: single-stranded DNA containing 5-methylcytosine.
- Lane 3: single-stranded DNA containing 5-hydroxymethylcytosine.
- Lane 4: double-stranded unmethylated DNA.
- Lane 5: double-stranded DNA containing 5-methylcytosine.
- Lane 6: double-stranded DNA 5-hydroxymethylcytosine.