

Rabbit anti-Human, Mouse 5-Hydroxymethylcytosine Polyclonal Antibody

5-Hydroxymethylcytosine (5-hmC) antibody (pAb)

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA59823	Rabbit	Human, Mouse	Immunoprecipitation, Immunohistochemistry, Immunofluorescence, Dot Blot

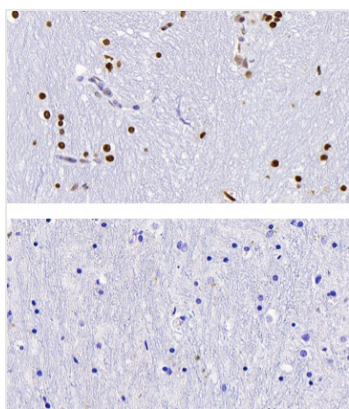
PRODUCT SYNONYMS

5-Hydroxymethylcytosine; Polyclonal Antibody; 5-Hydroxymethylcytosine (5-hmC) antibody (pAb); anti-5-Hydroxymethylcytosine antibody

PRODUCT SPECIFICATIONS

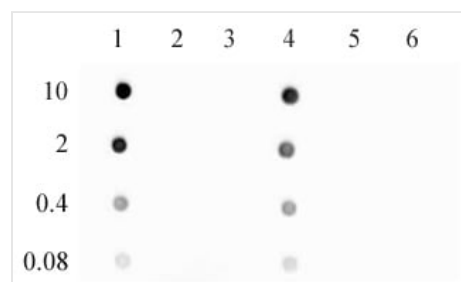
Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Isotype	IgG
Purity/Purification	Protein A Chromatography
Form/Format	PBS pH7.5 containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.
Concentration	1ug/ul (varies by lot)
Applicable Applications for anti-5-Hydroxymethylcytosine antibody	MeDIP (Methyl DNA Immunoprecipitation), IHC (Immunohistochemistry), IF (Immunofluorescence), DB (Dot Blot)
Conjugation	Methylated
Immunogen	This 5-Hydroxymethylcytidine antibody was raised against 5-hydroxymethylcytidine conjugated to KLH and recognizes 5-hydroxymethylcytosine.
Preparation and Storage	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 degree C for up to 2 years. Keep all reagents on ice when not in storage.1ug/ul

IMAGES



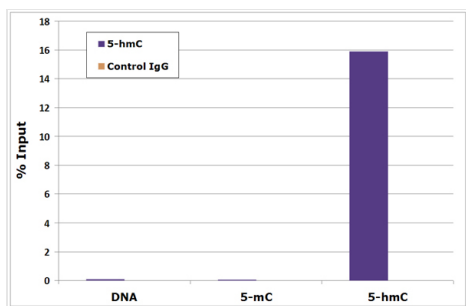
IHC (Immunohistochemistry)

5-Hydroxymethylcytosine (5-hmC) antibody (pAb) tested by Immunohistochemistry. Punctate nuclear staining pattern is detected in Formalin-fixed, paraffin-embedded tissue sections from human substantia nigra (midbrain). Top Panel: 5-hmC antibody at 1:1000 dilution. Bottom Panel: No primary antibody (2nd step antibody alone)



DB (Dot Blot)

5-Hydroxymethylcytosine antibody tested by dot blot analysis. DNA from the Methylated DNA Standard Kit were spotted (indicated in ng on the left) on to a positively charged nylon membrane and blotted with 5-Hydroxymethylcytosine antibody recognizing 5-hydroxymethylcytosine (1 ug/ml dilution). Lane 1: double-stranded DNA 5-hydroxymethylcytosine. Lane 2: double-stranded DNA containing 5-methylcytosine. Lane 3: double stranded unmethylated DNA. Lane 4: single-stranded DNA containing 5-hydroxymethylcytosine. Lane 5: single-stranded DNA containing 5-methylcytosine. Lane 6: single stranded unmethylated DNA.



IP (Immunoprecipitation)

5-Hydroxymethylcytosine antibody tested by Methyl DNA immunoprecipitation. DNA (25 pg) derived from the promoter of the APC gene was spiked into 500 ng of human genomic DNA and subjected to the MeDIP procedure using 2 µg of 5-Hydroxymethylcytosine antibody (5hmC, maroon bars) or 2 µg of control rabbit IgG (IgG, blue bars). Real time quantitative PCR was performed on the immunoprecipitated DNA and results plotted as % of input DNA. The spiked APC DNA contained either no methylation (DNA), 5-methylcytosine methylation (5-mC) or 5-hydroxymethylcytosine methylation (5-hmC). The 5-hmC antibody shows a 650-fold enrichment for 5-hmC DNA compared to 5-mC DNA or unmethylated DNA.

ADDITIONAL INFORMATION

Related Product Information for anti-5-Hydroxymethylcytosine antibody

Short Description: Our 5-Hydroxymethylcytosine (5-hmC) antibody (pAb) was raised in a Rabbit host. It has been validated for use in Dot blot, Immunofluorescence, Immunohistochemistry and Methyl DNA Immunoprecipitation; it has been shown to react with Human and Mouse samples, but the sequence is not species specific so it should react with a wide range of sample types.

Background: We offers two polyclonal antibodies that recognize 5-hydroxymethylcytosine, a whole serum version and a purified IgG version. Both are validated for use in methyl DNA immunoprecipitation (MeDIP). For customers that require the ability to quantitate the amount of IgG in the MeDIP reaction, the purified IgG version is recommended. The whole serum version is very high titre and should be used carefully (0.1-0.5 µl per IP) as not to generate high non-specific background. The whole serum version has been used successfully in immunofluorescence (IF, <http://www.ncbi.nlm.nih.gov/pubmed/20639862> Ito et al, 2010), and the purified IgG version is likely to work in this application as well.

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. 5-methylcytosine is a modified base that is found in the DNA of plants and vertebrates. A second type of DNA methylation exists, 5-hydroxymethylcytosine (5-hydroxy methylcytosine, 5-hmC). This results from the enzymatic conversion of 5-methylcytosine into 5-hydroxymethylcytosine by the TET family of cytosine oxygenases. This antibody was developed specifically to distinguish 5-hydroxymethylcytosine from 5-methylcytosine as conventional methods (enrichment by antibody or methyl DNA binding protein, enzymatic digestion and bisulfite sequencing) cannot do so. It is possible that 5-hydroxymethylcytosine (5-hmC) represents a pathway to demethylate DNA, as 5-hydroxymethylcytosine is repaired as mismatched DNA and replaced with unmethylated cytosine.

Product Categories/Family for anti-5-Hydroxymethylcytosine antibody

Primary Antibodies

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/5-hydroxymethylcytosine-antibody-methyl-dna-immunoprecipitation-immunohistochemistry-immunofluorescence-dot-blot-elisa/59823>