

Product datasheet

Anti-5-hydroxymethylcytosine (5-hmC) antibody [AB3/63.3] - ChIP Grade ab106918

★★★★☆ [2 Abreviews](#) [20 References](#) [4 Images](#)

Overview

Product name	Anti-5-hydroxymethylcytosine (5-hmC) antibody [AB3/63.3] - ChIP Grade
Description	Rat monoclonal [AB3/63.3] to 5-hydroxymethylcytosine (5-hmC) - ChIP Grade
Host species	Rat
Tested applications	Suitable for: ICC/IF, IP, ChIP, IHC-Fr, Dot blot, MeDIP
Species reactivity	Reacts with: Species independent
Immunogen	5-hydroxymethylcytidine conjugated to KLH
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.02% Sodium azide Constituent: 99.98% PBS
Purity	Protein G purified
Clonality	Monoclonal
Clone number	AB3/63.3
Isotype	IgG2a

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab106918 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

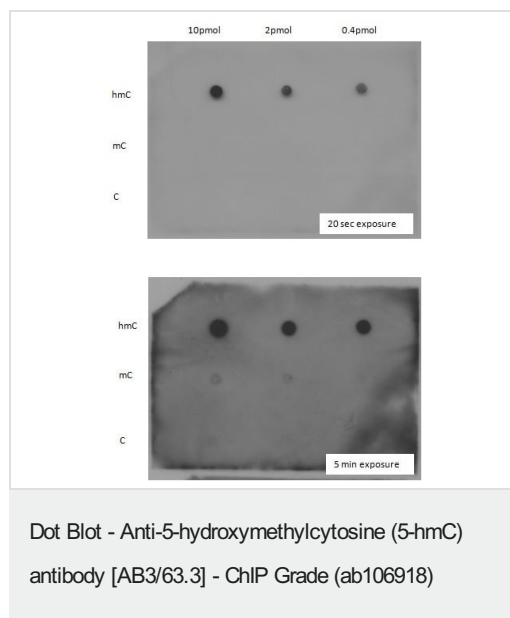
Application	Abreviews	Notes
ICC/IF	★☆☆☆☆ (1)	1/500 - 1/1000.
IP		1/200.
ChIP	★★★★★ (1)	Use at an assay dependent concentration.
IHC-Fr		1/500 - 1/1000.
Dot blot		1/500.
MeDIP		Use at an assay dependent concentration.

Target

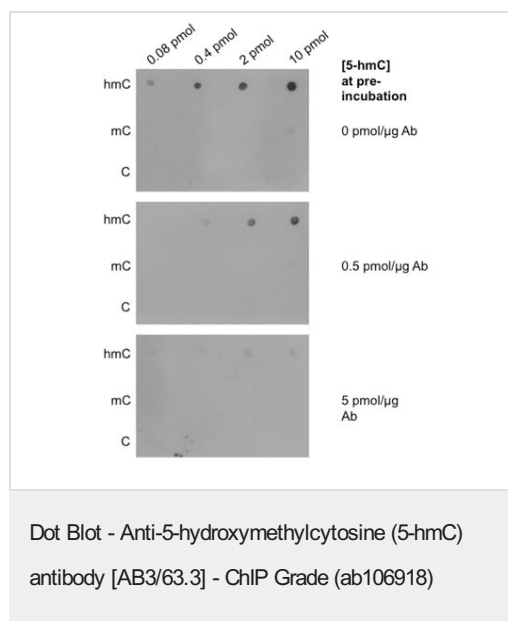
Relevance

5-Hydroxymethylcytosine (5-hmC) is a modified base form of cytosine recently found in Human/mouse brain and in embryonic stem cells. This DNA pyrimidine nitrogen base can be generated by oxidation of 5-methylcytosine, a reaction mediated by the ten-eleven translocation (TET) family of the 5-mC hydroxylases. The function of this base is still not elucidated but it is believed to play an important role in switching genes on and off.

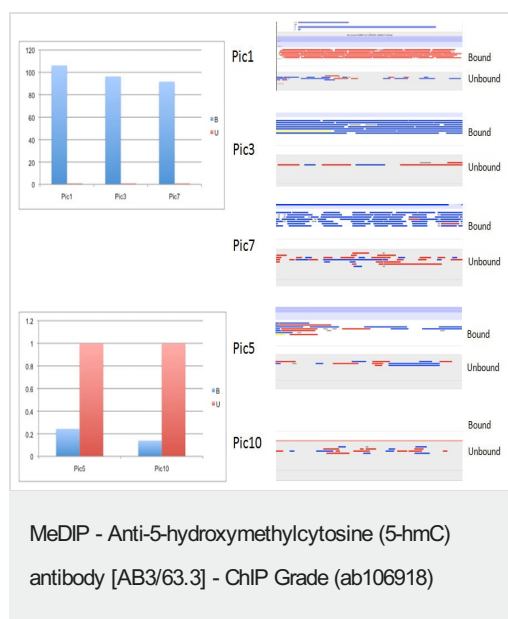
Images



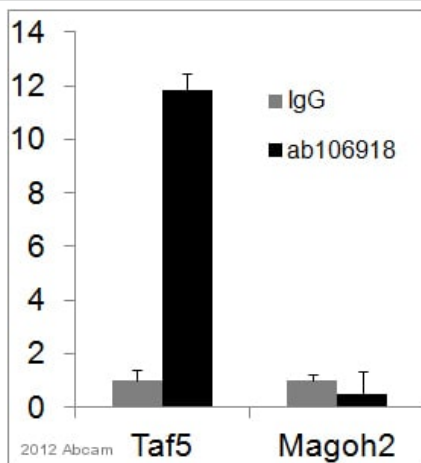
Dot blot assay shows that ab106918 specifically recognized 5-hydroxymethyl Cytidine (hmC). Indicated amounts of hmC, methyl Cytidine (mC) and Cytidine (C) were spotted onto a membrane that was then incubated with ab106918. hmC, mC and C were generated in the following way: M13mp18 DNA had been amplified using primers F and R; F: attccatgagcgttttcc R: gcaaggcaaagaattagcaa. A 200 uM dNTP end concentration was used with 1. A,G,C,T and 2. A,G,hmC,T; where C had been replaced with HmdCTP. DNA was in vitro methylated with SssI and SAM, and 2ul of pmol of each base was denatured at 95C for 5 min and spotted and dried onto the membrane. The dot blot membrane was blocked with 10%skimmed milk + 1%BSA blocking overnight and then incubated with ab106918 at 1:500 in blocking solution. A goat anti rat HRP secondary antibody was used for ECL detection. This image is from an anonymous collaborator.



Dot blot competition assay in which ab106918 was preincubated with 5-hydroxymethyl Cytidine (5hmC) at amounts indicated in figure. Specified amounts of 5hmC, methyl Cytidine (mC) and Cytidine (C) were spotted onto membranes and were then incubated with ab106918 that had been preincubated with 5hmC as shown in figure. ab106918 specifically recognized 5hmC and this was blocked by preincubation with 5hmC at 5 pmol/ug ab106918 (Ab). This image is from an anonymous collaborator.



The specificity of ab106918 was confirmed by (h)MeDIP using qPCR validation of regions in ES cells that are highly enriched in 5-hydroxymethyl Cytidine (5hmC) (Pic1, Pic3 and Pic7) or not (Pic5 and Pic10). This image is from an anonymous collaborator.



ChIP - Anti-5-hydroxymethylcytosine (5-hmC)
antibody [AB3/63.3] - ChIP Grade (ab106918)

This image is courtesy of an anonymous Abreview

ChIP analysis of mouse ES nuclear cell lysate using ab106918 to bind 5-hydroxymethyl Cytidine. Chromatin was obtained by incubating with primary antibody (0.5 µg/µg chromatin in a glycerol IP buffer) for 16 hours at 4°C. Protein binding was detected using real-time PCR.

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