

PRODUCT INFORMATION



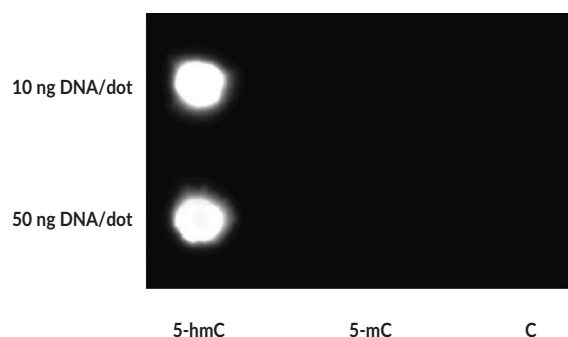
5-Hydroxymethylcytosine Polyclonal Antibody

Item No. 18289

Overview and Properties

Contents:	This vial contains 500 µl of protein A-purified polyclonal antibody.
Synonym:	5-hmC
Immunogen:	Human 5-hmC conjugated to KLH
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Host:	Rabbit
Applications:	Dot blot and ELISA; the recommended starting dilution is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



DNA containing all 5-hmC, 5-mC, or C nucleotides were spotted at 10 and 50 ng per spot and probed with anti-5hmC antibody at a 1:200 dilution.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

5-Hydroxymethylcytosine (5-hmC) is an epigenetic modification formed from the oxidation of 5-methylcytosine by Tet dioxygenases.¹ 5-hmC is primarily a stable DNA modification, but it can be oxidized by Tet enzymes and its products further modified to generate nonmethylated cytosine, indicating a role as an intermediate in DNA demethylation as well.²⁻⁴ It is associated with actively transcribed genes and recognized by a variety of proteins, including proteins involved in DNA repair and DNA metabolic processes.^{2,4} 5-hmC has been found in all mammalian tissues but levels are higher in the brain relative to other tissues.⁵ The percentage of genomic 5-hmC in mouse cerebellum increases during postnatal development until adulthood, and genes acquiring intragenic 5-hmC are enriched in pathways associated with age-related neurodegenerative disease pathways in adult mice.⁶ In contrast, 5-hmC levels are reduced by up to 8-fold in cancer tissues.^{2,7} Cayman's 5-Hydroxymethylcytosine Polyclonal Antibody can be used for dot blot and ELISA applications.

Reference

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4. Spruijt, C.G., Gnerlich, F., Smits, A.H., *et al.* Dynamic readers for 5-(hydroxy)methylcytosine and its oxidized derivatives. *Cell* **152(5)**, 1146-1159 (2013).
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7. Song, C.X., Szulwach, K.E., Fu, Y., *et al.* Selective chemical labeling reveals the genome-wide distribution of 5-hydroxymethylcytosine. *Nat. Biotechnol.* **29(1)**, 68-72 (2011).

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