

PRODUCT INFORMATION



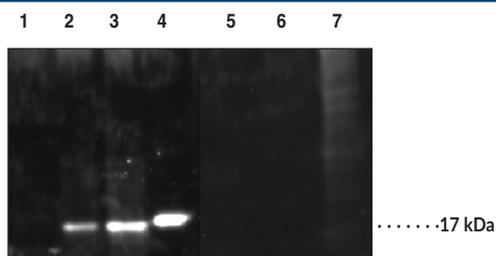
Histone H3K4Me2 Polyclonal Antibody

Item No. 18198

Overview

Contents:	This vial contains 500 μ l of peptide affinity-purified polyclonal antibody.
Synonym:	Histone H3 containing dimethylated lysine 4
Immunogen:	Synthetic peptide from the N-terminal region of human Histone H3 (dimethyl K4) conjugated to KLH.
Cross Reactivity:	(+) Histone H3 monomethylated at K4 (~100%), Histone H3 trimethylated at K4 (~20%), Histone H3 dimethylated at K9 (~20%)
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	P68431
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	\geq 3 years
Storage Buffer:	TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Host:	Rabbit
Applications:	ELISA and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Histone H3 (unmodified) (human recombinant) (Item No. 10263) (5 μ g)
Lane 2: Core Histones (Item No. 11010) (8 μ g)
Lane 3: Core Histones (Item No. 11010) (16 μ g)
Lane 4: HeLa Cell Lysate (50 μ g)
Lane 5: Core Histones (Item No. 11010) (8 μ g) + 10 μ g/ml immunizing peptide
Lane 6: Core Histones (Item No. 11010) (16 μ g) + 10 μ g/ml immunizing peptide
Lane 7: HeLa Cell Lysate (50 μ g) + 10 μ g/ml immunizing peptide

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.

Copyright Cayman Chemical Company, 11/21/2023

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

Histone H3 is a nuclear protein and a component of the nucleosome core, a basic unit of chromatin, that is essential for organizing genomic DNA in eukaryotic nuclei.¹ It is a globular protein that contains an unstructured N-terminal tail that extends outside of the nucleosome core and is subject to various post-translational modifications (PTMs), including methylation, phosphorylation, acetylation, and citrullination.^{1,2} Dimethylation of H3K4 is catalyzed by SET domain-containing histone methyltransferases, including SET1, MLL1, -2, -3, and -4, and SMYD3, and dysregulation of these methyltransferases is associated with various diseases, including breast and prostate cancer and Alzheimer's disease in humans. H3K4Me2 is highly enriched in the promoter region of transcriptionally active genes, as well as primed, inactive genes that are targeted for future transcription.³ Cayman's Histone H3K4Me2 Polyclonal Antibody can be used for ELISA and Western blot applications. It detects H3K4Me2 at ~16 kDa from human samples.

References

1. Hyun, K., Jeon, J., Park, K., et al. Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* 49(4), e324 (2017).
2. Sharda, A., Amnekar, R.V., Natu, A., et al. Histone posttranslational modifications: Potential role in diagnosis, prognosis, and therapeutics of cancer. *Prognostic Epigenetics*. Sharma, S., editor, *Academic Press* (2019).
3. Sims, R.J., III and Reinberg, D. Histone H3 Lys 4 methylation: Caught in a bind? *Genes Dev.* 20(20), 2779-2786 (2006).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM