

Product datasheet

Anti-Histone H4 (mono methyl K20) antibody [mAbcam 16974]
ab16974

画像数 3

製品の概要

製品名	Anti-Histone H4 (mono methyl K20) antibody [mAbcam 16974]
製品の詳細	Mouse monoclonal [mAbcam 16974] to Histone H4 (mono methyl K20)
由来種	Mouse
アプリケーション	適用あり: WB, Flow Cyt
種交差性	交差種: Human
免疫原	Synthetic peptide within Human Histone H4 aa 1-100 (mono methyl K20). The exact sequence is proprietary. (Peptide available as ab17043)
ポジティブ・コントロール	This antibody gave a positive signal in methanol fixed/Tween permeabilised HeLa cells in Flow Cytometry.
特記事項	This antibody clone is manufactured by Abcam. If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here .

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
バッファー	pH: 7.50 Preservative: 0.02% Sodium azide Constituents: 5.88% Sodium citrate, Tris HCl, 2.9% Sodium chloride
精製度	IgG fraction
ポリ/モノ	モノクローナル
クローン名	mAbcam 16974
アイソタイプ	IgG1
軽鎖の種類	kappa

アプリケーション

Our [Abpromise guarantee](#) covers the use of **ab16974** in the following tested applications.

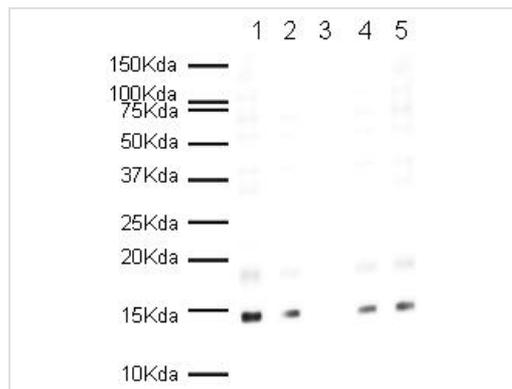
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

アプリケーション	Abreviews	特記事項
WB		Use a concentration of 10 µg/ml. Detects a band of approximately 15 kDa (predicted molecular weight: 15 kDa). Can be blocked with Human Histone H4 (mono methyl K20) peptide (ab17043) .
Flow Cyt		Use 2µg for 10 ⁶ cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

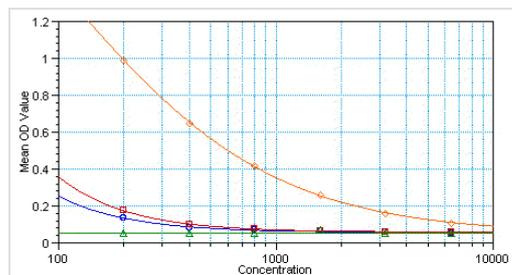
ターゲット情報

機能	Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called histone code, and nucleosome remodeling.
配列類似性	Belongs to the histone H4 family.
翻訳後修飾	Acetylation at Lys-6 (H4K5ac), Lys-9 (H4K8ac), Lys-13 (H4K12ac) and Lys-17 (H4K16ac) occurs in coding regions of the genome but not in heterochromatin. Citullination at Arg-4 (H4R3ci) by PADI4 impairs methylation. Monomethylation and asymmetric dimethylation at Arg-4 (H4R3me1 and H4R3me2a, respectively) by PRMT1 favors acetylation at Lys-9 (H4K8ac) and Lys-13 (H4K12ac). Demethylation is performed by JMJD6. Symmetric dimethylation on Arg-4 (H4R3me2s) by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage. Monomethylated, dimethylated or trimethylated at Lys-21 (H4K20me1, H4K20me2, H4K20me3). Monomethylation is performed by SET8. Trimethylation is performed by SUV420H1 and SUV420H2 and induces gene silencing. Phosphorylated by PAK2 at Ser-48 (H4S47ph). This phosphorylation increases the association of H3.3-H4 with the histone chaperone HIRA, thus promoting nucleosome assembly of H3.3-H4 and inhibiting nucleosome assembly of H3.1-H4. Ubiquitinated by the CUL4-DDB-RBX1 complex in response to ultraviolet irradiation. This may weaken the interaction between histones and DNA and facilitate DNA accessibility to repair proteins. Monoubiquitinated at Lys-92 of histone H4 (H4K91ub1) in response to DNA damage. The exact role of H4K91ub1 in DNA damage response is still unclear but it may function as a licensing signal for additional histone H4 post-translational modifications such as H4 Lys-21 methylation (H4K20me). Sumoylated, which is associated with transcriptional repression. Crotonylation (Kcr) is specifically present in male germ cells and marks testis-specific genes in post-meiotic cells, including X-linked genes that escape sex chromosome inactivation in haploid cells. Crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors. It is also associated with post-meiotically activated genes on autosomes.
細胞内局在	Nucleus. Chromosome.

画像



Western blot - Anti-Histone H4 (mono methyl K20)
antibody [mAbcam 16974] (ab16974)



ELISA - Anti-Histone H4 (mono methyl K20)
antibody [mAbcam 16974] (ab16974)

ELISA using ab16974 at antibody concentrations between 1/100 and 1/10000.

The orange line indicates binding to the Histone H4 peptide - mono methyl K20 ([ab17043](#)).

Binding to the following peptides was either not seen or was very weak:

Histone H4 peptide - tri methyl K20

([ab17567](#)) - green line,

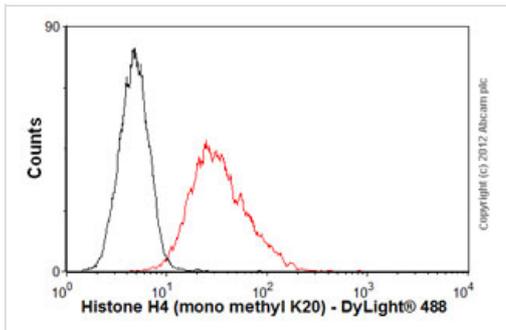
Histone H4 peptide - di methyl K20

([ab14964](#)) - blue line,

Histone H4 peptide - unmodified ([ab2622](#)) -

red line.

This indicates the specificity of [ab16974](#) for mono methyl K20 of Histone H4.



Flow Cytometry - Anti-Histone H4 (mono methyl K20) antibody [mAbcam 16974] (ab16974)

Overlay histogram showing HeLa cells stained with ab16974 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab16974, 2 μ g/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [CIGG1] (ab91353, 2 μ g/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed.

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