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Product datasheet

Anti-Histone H3 (phospho T3, acetyl K4) antibody ab272140

画像数 3

製品の概要

製品名	Anti-Histone H3 (phospho T3, acetyl K4) antibody
製品の詳細	Rabbit polyclonal to Histone H3 (phospho T3, acetyl K4)
由来種	Rabbit
アプリケーション	**適用あり:** Dot blot, ICC/IF, WB
種交差性	**交差種:** Mouse, Human, Caenorhabditis elegans
免疫原	Synthetic peptide corresponding to Human Histone H3 (phospho T3, acetyl K4). Database link: **Q71DI3**
ポジティブ・コントロール	ICC: HeLa cells; WB: HeLa and NIH/3T3 histone preparation. Caenorhabditis elegans embryo lysate.
特記事項	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. 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

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	Preservative: 0.01% Sodium azide Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride, 30% Glycerol (glycerin, glycerine)
精製度	Affinity purified
ポリ/モノ	ポリクローナル
アイソタイプ	IgG

アプリケーション

The Abpromise guarantee **Abpromise保証は、** **次のテスト済みアプリケーションにおけるab272140の使用に適用されます**

アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
Dot blot		1/1000.
ICC/IF		1/50.
WB		1/500. Predicted molecular weight: 15 kDa.

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 H3 family.

発生段階

Expressed during S phase, then expression strongly decreases as cell division slows down during the process of differentiation.

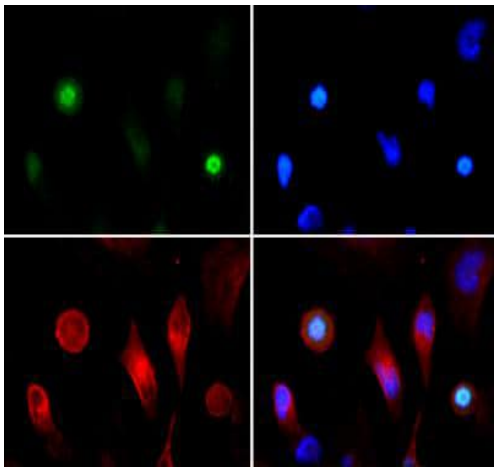
翻訳後修飾

Acetylation is generally linked to gene activation. Acetylation on Lys-10 (H3K9ac) impairs methylation at Arg-9 (H3R8me2s). Acetylation on Lys-19 (H3K18ac) and Lys-24 (H3K24ac) favors methylation at Arg-18 (H3R17me).
Citrullination at Arg-9 (H3R8ci) and/or Arg-18 (H3R17ci) by PADI4 impairs methylation and represses transcription.
Asymmetric dimethylation at Arg-18 (H3R17me2a) by CARM1 is linked to gene activation.
Symmetric dimethylation at Arg-9 (H3R8me2s) by PRMT5 is linked to gene repression.
Asymmetric dimethylation at Arg-3 (H3R2me2a) by PRMT6 is linked to gene repression and is mutually exclusive with H3 Lys-5 methylation (H3K4me2 and H3K4me3). H3R2me2a is present at the 3' of genes regardless of their transcription state and is enriched on inactive promoters, while it is absent on active promoters.
Methylation at Lys-5 (H3K4me), Lys-37 (H3K36me) and Lys-80 (H3K79me) are linked to gene activation. Methylation at Lys-5 (H3K4me) facilitates subsequent acetylation of H3 and H4. Methylation at Lys-80 (H3K79me) is associated with DNA double-strand break (DSB) responses and is a specific target for TP53BP1. Methylation at Lys-10 (H3K9me) and Lys-28 (H3K27me) are linked to gene repression. Methylation at Lys-10 (H3K9me) is a specific target for HP1 proteins (CBX1, CBX3 and CBX5) and prevents subsequent phosphorylation at Ser-11 (H3S10ph) and acetylation of H3 and H4. Methylation at Lys-5 (H3K4me) and Lys-80 (H3K79me) require preliminary monoubiquitination of H2B at 'Lys-120'. Methylation at Lys-10 (H3K9me) and Lys-28 (H3K27me) are enriched in inactive X chromosome chromatin.
Phosphorylated at Thr-4 (H3T3ph) by GSG2/haspin during prophase and dephosphorylated during anaphase. Phosphorylation at Ser-11 (H3S10ph) by AURKB is crucial for chromosome condensation and cell-cycle progression during mitosis and meiosis. In addition phosphorylation at Ser-11 (H3S10ph) by RPS6KA4 and RPS6KA5 is important during interphase because it enables the transcription of genes following external stimulation, like mitogens, stress, growth factors or UV irradiation and result in the activation of genes, such as c-fos and c-jun.
Phosphorylation at Ser-11 (H3S10ph), which is linked to gene activation, prevents methylation at Lys-10 (H3K9me) but facilitates acetylation of H3 and H4. Phosphorylation at Ser-11 (H3S10ph)

by AURKB mediates the dissociation of HP1 proteins (CBX1, CBX3 and CBX5) from heterochromatin. Phosphorylation at Ser-11 (H3S10ph) is also an essential regulatory mechanism for neoplastic cell transformation. Phosphorylated at Ser-29 (H3S28ph) by MLTK isoform 1, RPS6KA5 or AURKB during mitosis or upon ultraviolet B irradiation. Phosphorylation at Thr-7 (H3T6ph) by PRKCBB is a specific tag for epigenetic transcriptional activation that prevents demethylation of Lys-5 (H3K4me) by LSD1/KDM1A. At centromeres, specifically phosphorylated at Thr-12 (H3T11ph) from prophase to early anaphase, by DAPK3 and PKN1. Phosphorylation at Thr-12 (H3T11ph) by PKN1 is a specific tag for epigenetic transcriptional activation that promotes demethylation of Lys-10 (H3K9me) by KDM4C/JMJD2C.
Phosphorylation at Tyr-42 (H3Y41ph) by JAK2 promotes exclusion of CBX5 (HP1 alpha) from chromatin.
Monoubiquitinated by RAG1 in lymphoid cells, monoubiquitination is required for V(D)J recombination (By similarity). 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.

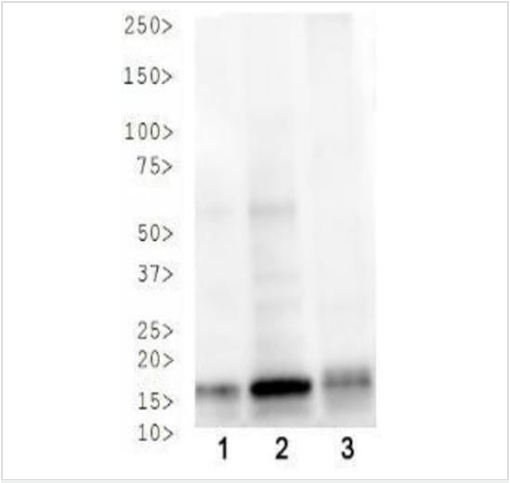
細胞内局在 Nucleus. Chromosome.

画像



Immunocytochemistry/ Immunofluorescence - Anti-Histone H3 antibody (ab272140)

Immunofluorescence analysis of HeLa cells labeling Histone H3 (green) using ab272140 at 1:100, followed by a Dylight 488 secondary antibody at 1:10,000. Localization: Histone H3 [ac Lys4, p Thr3] is nuclear and chromosomal. Countersatin: nuclei and alpha-tubulin were coexpressed with DAPI (blue) and Dylight 550 (red). Fixation: 0.5% PFA.



Western blot - Anti-Histone H3 antibody (ab272140)

All lanes : Anti-Histone H3 (phospho T3, acetyl K4) antibody (ab272140) at 1/500 dilution

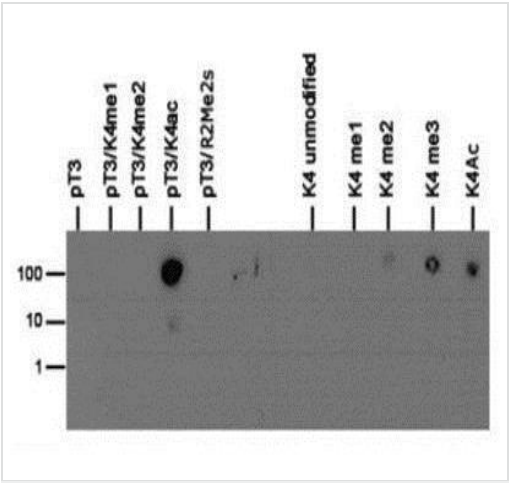
Lane 1 : HeLa (Human epithelial cell line from cervix adenocarcinoma) histone preparation
Lane 2 : NIH/3T3 (Mouse embryo fibroblast cell line) histone preparation
Lane 3 : Caenorhabditis elegans embryo lysate.

Lysates/proteins at 30 µg per lane.

Secondary
All lanes : IRDye800™ rabbit secondary antibody at 1/10000 dilution

Predicted band size: 15 kDa

Block: 5% BLOTTO



Dot Blot - Anti-Histone H3 antibody (ab272140)

Dot Blot analysis of Histone H3 methylated forms using ab272140 at 1:1000, followed by a Dylight 488 secondary antibody at 1:10,000. Block: 5% BLOTTO.

Lane 1: pT3.

Lane 2: pT3/K4me1.

Lane 3: pT3/K4me2.

Lane 4: pT3/K4ac.

Lane 5: pT3/RZm2s.

Lane 6: K4 unmodified.

Lane 7: K4me1.

Lane 8: K4me2.

Lane 9: K4me3.

Lane 10: K4me ac.

Load: 1, 10, and 100 picomoles of peptide.

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