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+1 484.791.3823

Datasheet for 600-401-I56

Histone H3 phospho T3/K4ac Antibody

Overview

Description:	Anti-Histone H3 [ac Lys4, p Thr3] (RABBIT) Antibody - 600-401-I56
Item No.:	600-401-I56
Size:	50 µg
Applications:	Dot Blot, IF, Multiplex, WB
Reactivity:	Human, Mouse, C. elegans
Host Species:	Rabbit

Product Details

Background:	Chromatin is the arrangement of DNA and proteins in which chromosomes are formed. Correspondingly, chromatin is formed from nucleosomes, which are comprised of a set of four histone proteins (H2A, H2B, H3, H4) wrapped with DNA. Chromatin is a very dynamic structure in which numerous post-translational modifications work together to activate or repress the availability of DNA to be copied, transcribed, or repaired. These marks decide which DNA will be open and commonly active (euchromatin) or tightly wound to prevent access and activation (heterochromatin). Common histone modifications include methylation of lysine and arginine, acetylation of lysine, phosphorylation of threonine and serine, and sumoylation, biotinylation, and ubiquitylation of lysine. Phosphorylation of threonine 3 (H3 pT3) is a known mitotic marker and modified by the Haspin/Thr3 enzyme, while acetylation of lysine 4 (H3K4ac) on histone 3 is associated with transcriptional activation by Esa1. Methylation that occurs on H3K4 concurrently with acetylation seems to act as an adjuster to the activation effects of acetylation. Shugoshin protein cannot bind to the centromere of active cells when H3K4 is acetylated, which reduces dimethylation, and thus slows meiosis and mitosis. Usually, H3K4Ac is a transitional modification, and will become further modified with methylation as transcription progresses, indicating complex transcriptional regulation. Anti-Histone H3 are ideal for researchers interested in Chromatin Modifiers, Chromatin Research, Histones and Modified Histones, and Epigenetics research.
Synonyms:	rabbit anti-Histone H3 Ac Lys4 pT3 antibody, H3.3B, H3 histone, family 3A, H3.3AH3F3H3F3B, histone H3.3, MGC87782, MGC87783, H3pT3/K4ac
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	HIST2H3C
Reactivity:	Human, Mouse, C. elegans
PTM Specificity:	Dual Modification
Immunogen Type:	Conjugated Peptide
Immunogen:	Histone H3 [ac Lys4, p Thr3] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with synthetic acetylated/phosphorylated peptide surrounding Lysine 4 and Threonine 3 of human Histone H3.
Purity/Specificity:	Anti-Histone H3 [ac Lys4, p Thr3] was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with human Histone H3. A BLAST analysis was used to suggest cross-reactivity with Human, mouse, and C. elegans. Predicted to react with many species including rat, chicken, Xenopus, Drosophila, and plant based on 100% sequence homology. Cross-reactivity with Histone H3 from other sources has not been determined.
Relevant Links:	• UniProtKB - Q71DI3 • NCBI - NP_001005464 • GeneID - 126961

Application Details

Tested Applications:	Dot Blot, IF, Multiplex, WB
Application Note:	Anti-Histone H3 [ac Lys4, p Thr3] antibody is tested for Western Blot, Immunocytochemistry/Immunofluorescence, and Dot Blot. This antibody is useful in Chromatin Immunoprecipitation. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately ~15.4 kDa corresponding to Histone H3 protein by Western Blotting in HeLa histone prep lysate or the appropriate cell lysate or extract. Epi-Plus™ antibody production in collaboration with Novus Biologicals.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ChIP:	2-5µg/million cells
IF:	1:50
IHC:	1:50
WB:	1:500

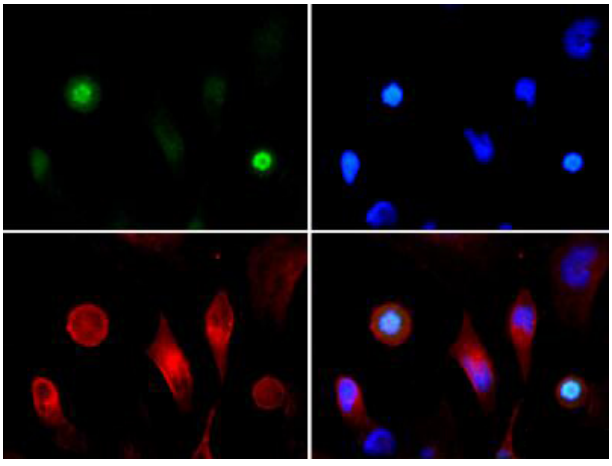
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	0.57 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	30% Glycerol

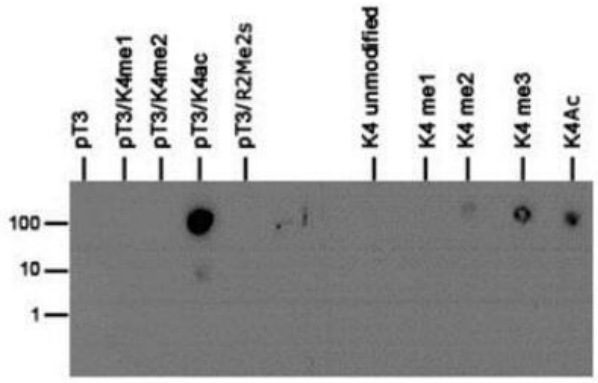
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

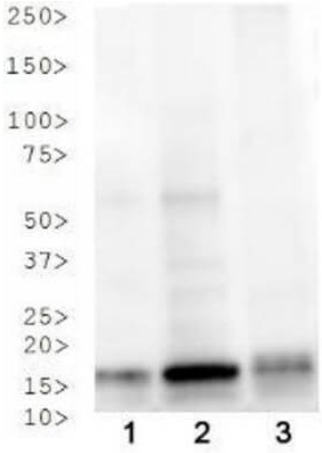
Images



Immunofluorescence Microscopy
Immunofluorescence Microscopy of Rabbit Anti-Histone H3 [ac Lys4, p Thr3] Antibody. Tissue: HeLa cells. Fixation: 0.5% PFA. Antigen retrieval: Not required. Primary antibody: Histone H3 [ac Lys4, p Thr3] antibody at a 1:100 dilution for 1 h at RT. Secondary antibody: Dylight 488 secondary antibody at 1:10,000 for 45 min at RT. Localization: Histone H3 [ac Lys4, p Thr3] is nuclear and chromosomal. Staining: Histone H3 [ac Lys4, p Thr3] is expressed in green while the nuclei and alpha-tubulin were coexpressed with DAPI (blue) and Dylight 550 (red).



Dot Blot
Dot Blot of Rabbit Histone H3 [p Thr3, ac Lys4] Antibody. 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. Primary antibody: Histone H3 [p Thr3, ac Lys4] antibody at 1:1000 for 45 min at 4°C. Secondary antibody: Dylight™488 rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C.



Western Blot
Western Blot of Rabbit Anti-Histone H3 [p Thr3, ac Lys4] Antibody. Lane 1: HeLa histone prep. 2. NIH-3T3 histone prep. Lane 3: C. elegans embryo lysate. Load: 30 µg per lane. Primary antibody: Histone H3 [p Thr3, ac Lys4] at 1:500 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: ~15 kDa. Other band(s): None.

Disclaimer

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