Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for 600-401-I61

Histone H3 K4me1/phospho T6 Antibody

Overview

Description:	Anti-Histone H3 [Monomethyl Lys4, p Thr6] (RABBIT) Antibody - 600-401-I61
Item No.:	600-401-I61
Size:	50 µg
Applications:	Dot Blot, IF, WB, ChIP
Reactivity:	Human, 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. In particular, trimethylation of lysine 4 on H3 (H3 K4Me3) is a well known mark of gene activation. However, the role of phosphorylation at threonine 6 on H3 (H3 pT6) is more obscure. Yet recently, the two modifications have been shown to interact with each other. When H3 T6 is phosphorylated by protein kinase C beta 1 (PRKCbeta), the histone demethylase LSD1 is prevented from removing methyl groups from H3 K4. This same study also correlated high levels of pT6 and PRKCbeta as a possible marker for prostate cancer, as well as tumor progression in xenografts. 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 monomethyl Lys4 pT6 antibody, H3.3AH3F3H3F3B, H3.3B, H3 histone, family 3A, histone H3.3, MGC87783, MGC87782, H3K4me1/pT6
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	HIST2H3C
Reactivity:	Human, C. elegans
PTM Specificity:	Dual Modification
Immunogen Type:	Conjugated Peptide
Immunogen:	Histone H3 [Monomethyl Lys4, p Thr6] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with synthetic monomethylated/phosphorylated peptides surrounding Lysine 4 and Threonine 6 of human Histone H3.2.
Purity/Specificity:	Anti-Histone H3 [Monomethyl Lys4, p Thr6] was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with human Histone H3.2. 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, WB
Suggested Applications:	ChIP (Based on references)
Application Note:	Anti-Histone H3 [Monomethyl Lys4, p Thr6] antibody is tested for Western Blot, Immunofluorescence, and Dot Blot. This antibody is useful for Immunocytochemistry and 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

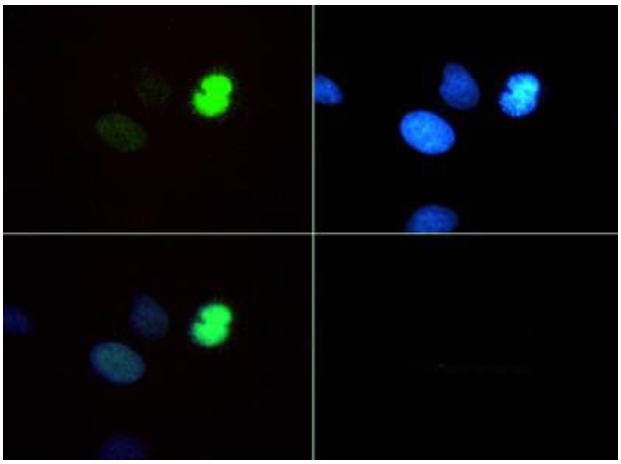
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	0.55 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

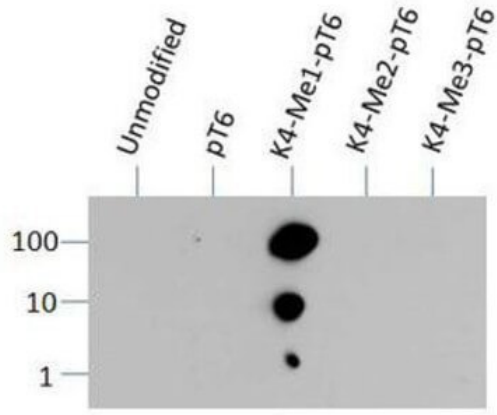
Shipping & Handling

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

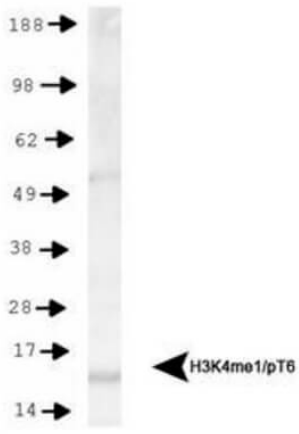


Immunofluorescence Microscopy
Immunofluorescence of Rabbit Anti-Histone H3 [Monomethyl Lys4, p Thr6] Antibody. Tissue: HeLa cells. Fixation: 0.5% PFA. Antigen retrieval: Not required. Primary antibody: Histone H3 [Monomethyl Lys4, p Thr6] antibody at a 1:50 dilution for 1 h at RT. Secondary antibody: FITC secondary antibody at 1:10,000 for 45 min at RT. Localization: Histone H3 [Monomethyl Lys4, p Thr6] is nuclear and chromosomal. Staining: Histone H3 [Monomethyl Lys4, p Thr6] is expressed in green and the nuclei are counterstained with DAPI (blue).



Dot Blot
Dot Blot of Rabbit Histone H3 [Monomethyl Lys4, p Thr6] Antibody. Lane 1: unmodified. Lane 2: pT6. Lane 3: K4Me1 pT6. Lane 4: K4Me2 pT6. Lane 5: K4Me3 pT6. Load: 1, 10, and 100 picomoles of peptide. Primary antibody: Histone H3 [Monomethyl Lys4, p Thr6] 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 [Monomethyl Lys4, p Thr6] Antibody. Lane 1: C. elegans embryonic lysate. Load: 30 µg per lane. Primary antibody: Histone H3 [Monomethyl Lys4, p Thr6] 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.



Western Blot
Western Blot of Rabbit Anti-Histone H3 [Monomethyl Lys4, p Thr6] Antibody. Lane 1: HeLa histone preps. Load: 30 µg per lane. Primary antibody: Histone H3 [Monomethyl Lys4, p Thr6] 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.

References

- Mika A et al. Epigenetic changes at the Birc5 promoter induced by YM155 in synovial sarcoma. *J Clin Med.* (2019)

Disclaimer