

Datasheet for 600-401-I91**Histone H3 K37me2 Antibody****Overview**

Description:	Anti-Histone H3 [Dimethyl Lys37] (RABBIT) Antibody - 600-401-I91
Item No.:	600-401-I91
Size:	50 µg
Applications:	Dot Blot, IF, 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. 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 dimethyl Lys37 antibody, H3.3B, H3 histone, family 3A, H3.3AH3F3H3F3B, histone H3.3, MGC87782, MGC87783, H3K37me2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	HIST2H3C
Reactivity:	Human, Mouse, C. elegans
PTM Specificity:	Methylation

Immunogen Type:	Conjugated Peptide
Immunogen:	Histone H3 [Dimethyl Lys37] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic dimethylated peptide surrounding Lysine 37 of human Histone H3.
Purity/Specificity:	Anti-Histone H3 [Dimethyl Lys37] 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, WB
Application Note:	Anti-Histone H3 [Dimethyl Lys37] antibody is tested for Western Blot, Immunofluorescence, and Dot Blot. This antibody is useful for 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:	1:100
IHC:	1:100
WB:	1:500-1:2000

Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	0.69 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: None

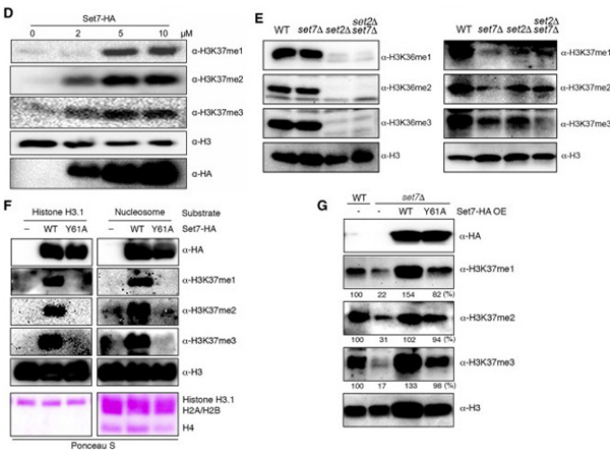
Shipping & Handling

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



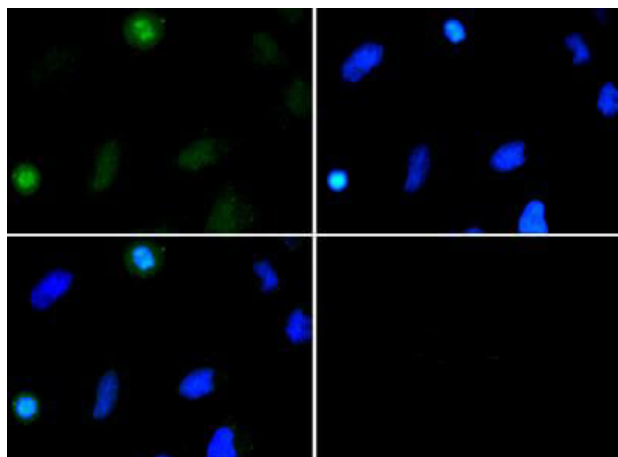
Western Blot

(D) In vitro H3K37 methylation by Set7: in vitro assay samples of histone H3.1 incubated with the increasing concentrations of purified Set7-HA were subjected to immunoblotting using indicated antibodies.

(E) In vivo H3K37 methylation by Set7: whole-cell extracts (WCE) obtained from wild-type (WT) (YK65), set7Δ (AS41 and YK320), set2Δ (AS54 and AS175), and set2Δset7Δ (AS727 and AS728) mutant cells were analyzed by immunoblotting with indicated antibodies.

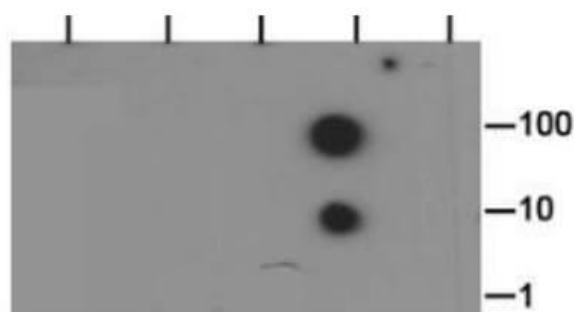
(F) In vitro H3K37 methylation by the enzymatic-deficient Set7Y61A: the substrates, histone H3.1 and the assembled nucleosomes, incubated with purified WT Set7 (Set7WT-HA) or Set7Y61A-HA were analyzed by immunoblotting using indicated antibodies.

(G) In vivo H3K37 methylation rescued by Set7 overexpression in set7Δ cells: H3K37 methylation levels in WCEs obtained from WT (YK401), set7Δ (Y425), and set7Δ cells overexpressing (OE) Set7WT (YK428) or Set7Y61A protein (YK432) were analyzed by immunoblotting and densitometry. Fig 1. PMID: 30773398



Immunofluorescence Microscopy

Immunofluorescence of Rabbit Anti-Histone H3 [Dimethyl Lys37] Antibody. Tissue: HeLa cells. Fixation: 0.5% PFA. Antigen retrieval: Not required. Primary antibody: Histone H3 [Dimethyl Lys37] 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 [Dimethyl Lys37] is nuclear and chromosomal. Staining: Histone H3 [Dimethyl Lys37] is expressed in green, nuclei are counterstained with DAPI (blue).



Dot Blot

Dot Blot of Rabbit Histone H3 [Dimethyl Lys37] Antibody. Lane 1: K37. Lane 2: K37Ac. Lane 3: Me1. Lane 4: Me2. Lane 5: Me3. Load: 1, 10, and 100 picomoles of peptide. Primary antibody: Histone H3 [Dimethyl Lys37] 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 [Dimethyl Lys37] Antibody. Lane 1: NIH-3T3 histone prep. Lane 2: C. elegans embryo. Lane 3: HeLa histone prep. Load: 30 µg per lane. Primary antibody: Histone H3 [Dimethyl Lys37] 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

- Shrestha S et al. Distinct Histone Post-translational Modifications during Plasmodium falciparum Gametocyte Development. *J Proteome Res.* (2022)
- Shen Y et al. Set7 Is a H3K37 Methyltransferase in Schizosaccharomyces pombe and Is Required for Proper Gametogenesis. *Structure.* (2019)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.