

**Datasheet for 600-401-I58****Histone H3 K4me2 Antibody****Overview**

|                      |                                                                 |
|----------------------|-----------------------------------------------------------------|
| <b>Description:</b>  | Anti-Histone H3 [Dimethyl Lys4] (RABBIT) Antibody - 600-401-I58 |
| <b>Item No.:</b>     | 600-401-I58                                                     |
| <b>Size:</b>         | 50 µg                                                           |
| <b>Applications:</b> | ChIP, Dot Blot, IF, WB                                          |
| <b>Reactivity:</b>   | Human, C. elegans                                               |
| <b>Host Species:</b> | Rabbit                                                          |

**Product Details**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Background:</b>   | H3K4me2 is a modification thought to have a role in transcriptional memory. In CD4+ T lymphocytes, H3K4Me2 is present within gene bodies regulating cellular function, but not in those of housekeeping genes, which indicates that the modification has a role in refining the tissue-specificity of expressed genes. This type of cellular identity targeting is also noted in work with human and mouse spermatozoa; the H3K4Me2 modification marks genes that are relevant in spermatogenesis. Most effects of H3K4Me2 seem to be attributed to its transcriptional activation; however, recent work also indicates that it may also play an RNA-dependent repressive role, related to the GAL-1 promoter. Anti-Histone H3 are ideal for researchers interested in Chromatin Modifiers, Chromatin Research, Histones and Modified Histones, and Epigenetics Research. |
| <b>Synonyms:</b>     | rabbit anti-Histone H3 dimethyl Lys4 antibody, H3.3B, H3.3AH3F3H3F3B, H3 histone, family 3A, histone H3.3, MGC87783, MGC87782, H3K4me2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Host Species:</b> | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Clonality:</b>    | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Format:</b>       | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Target Details**

|                         |                   |
|-------------------------|-------------------|
| <b>Gene Name:</b>       | HIST2H3C          |
| <b>Reactivity:</b>      | Human, C. elegans |
| <b>PTM Specificity:</b> | Methylation       |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b>Immunogen Type:</b>     | Conjugated Peptide                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Immunogen:</b>          | Histone H3 [Dimethyl Lys4] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic dimethylated peptide surrounding Lysine 4 of human Histone H3.2.                                                                                                                                                                                                                                                      |
| <b>Purity/Specificity:</b> | Anti-Histone H3 [Dimethyl Lys4] 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. |
| <b>Relevant Links:</b>     | <ul style="list-style-type: none"><li>• <a href="#">UniProtKB - Q71DI3</a></li><li>• <a href="#">NCBI - NP_001005464</a></li><li>• <a href="#">GenelD - 126961</a></li></ul>                                                                                                                                                                                                                                                                                         |

## Application Details

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Tested Applications:</b> | ChIP, Dot Blot, IF, WB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Application Note:</b>    | Anti-Histone H3 [Dimethyl Lys4] antibody is tested in Western Blot, Immunofluorescence, Chromatin Immunoprecipitation, and Dot Blot. This antibody is useful in Immunocytochemistry. 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. |
| <b>Assay Dilutions:</b>     | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ChIP:</b>                | 2-5µg/million cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>IF:</b>                  | 1:50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>IHC:</b>                 | 1:50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>WB:</b>                  | 1:500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Formulation

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| <b>Physical State:</b> | Liquid (sterile filtered)                                  |
| <b>Concentration:</b>  | 1.1 mg/ml by UV absorbance at 280 nm                       |
| <b>Buffer:</b>         | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| <b>Preservative:</b>   | 0.01% (w/v) Sodium Azide                                   |

**Stabilizer:** 30% Glycerol

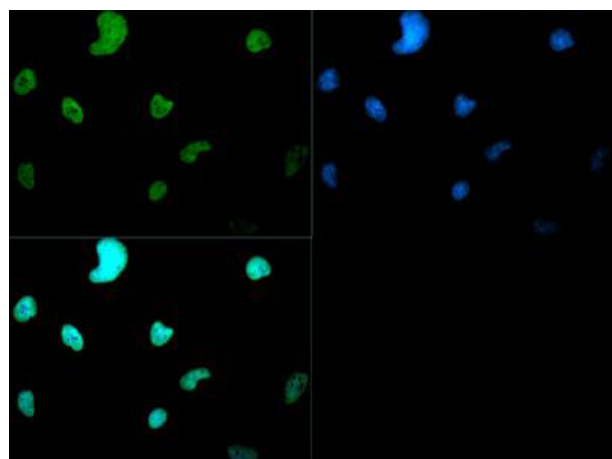
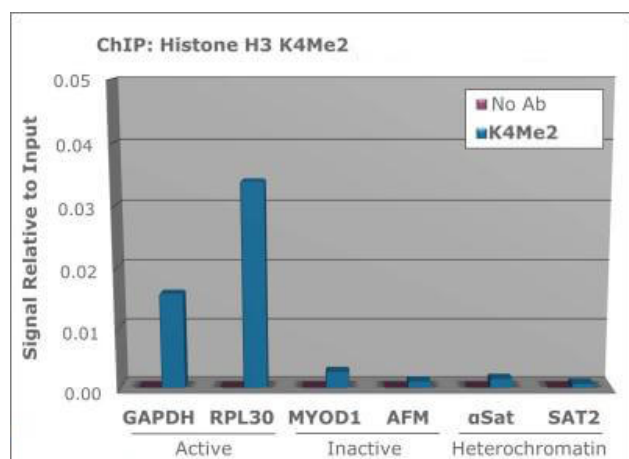
## Shipping & Handling

**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

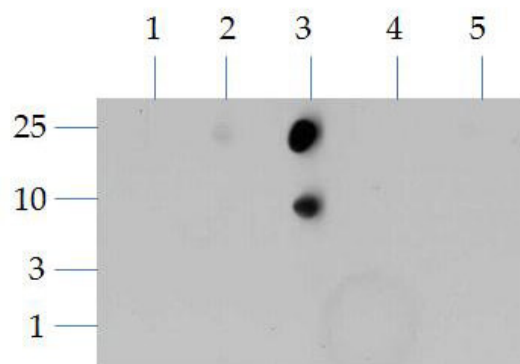


### ChIP

Chromatin Immunoprecipitation of Rabbit Anti-Histone H3 [Dimethyl Lys4] Antibody. Chromatin from one million formaldehyde cross-linked HeLa cells was used with 2ug of Anti-Histone H3 K4 Me3 and 20ul of magnetic IgG beads per immunoprecipitation. A no antibody (No Ab) control was also used. Immunoprecipitated DNA was quantified using quantitative real-time PCR and SYBR green dye, then normalized to the non-precipitated input chromatin, which is equal to one.

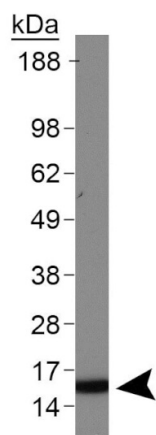
### Immunofluorescence Microscopy

Immunofluorescence of Rabbit Anti-Histone H3 [Dimethyl Lys4] Antibody. Tissue: C. elegans embryo lysate. Fixation: 0.5% PFA. Antigen retrieval: Not required. Primary antibody: Histone H3 [Dimethyl Lys4] antibody at a 1:50 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 Lys4] is nuclear and chromosomal. Staining: Histone H3 [Dimethyl Lys4] is expressed in green and the nuclei are counterstained blue with DAPI.



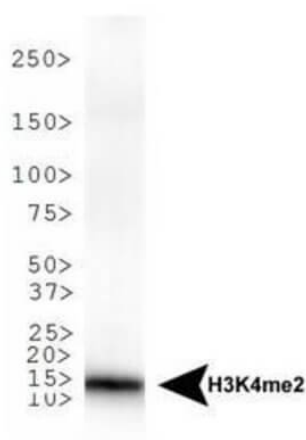
#### Dot Blot

Dot Blot of Rabbit Histone H3 [Dimethyl Lys4] Antibody.  
 Lane 1: K4. Lane 2: K4 Kme1. Lane 3: K4 Kme2. Lane 4: K4 Kme3. Lane 5: K4 KAc. Load: 1, 3, 10, and 25 picomoles of peptide. Primary antibody: Histone H3 [Dimethyl 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 [Dimethyl Lys4] Antibody. Lane 1: HeLa histone preps. Load: 30 µg per lane. Primary antibody: Histone H3 [Dimethyl Lys4] at 1:1000 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 [Dimethyl Lys4] Antibody. Lane 1: C. elegans embryo lysate. Load: 30 µg per lane. Primary antibody: Histone H3 [Dimethyl 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

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.