

Datasheet for 600-401-I67**Histone H3 R8me2a Antibody****Overview**

Description:	Anti-Histone H3 [Asym-dimethyl Arg8] (RABBIT) Antibody - 600-401-I67
Item No.:	600-401-I67
Size:	50 µg
Applications:	ChIP, Dot Blot, IF, IHC, 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. In particular, dimethylation of H3 Arg8 (H3 R8Me2) is known as a mark of transcriptional repression. The protein arginine methyltransferases PRMT5 and PRMT2 can both methylate Arg8, with PRMT2 specifically methylating in an asymmetric manner. In addition, asymmetric dimethylation of Arg8 inhibits H3K9 methylation by G9a, but not symmetric Arg8Me2 does not. 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 Asym-dimethyl Arg8 antibody, H3.3B, H3 histone, family 3A, H3.3AH3F3H3F3B, histone H3.3, MGC87783, MGC87782, H3R8me2a
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 [Asym-dimethyl Arg8] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic dimethylated peptide surrounding Arginine 8 of human Histone H3.2.
Purity/Specificity:	Anti-Histone H3 [Asym-dimethyl Arg8] 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 • GenelD - 126961

Application Details

Tested Applications:	ChIP, Dot Blot, IF, IHC, Multiplex, WB
Application Note:	Anti-Histone H3 [Asym-dimethyl Arg8] antibody is tested for Western Blot, Immunocytochemistry, Immunofluorescence, Chromatin Immunoprecipitation, and Dot Blot. 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:	1:200
IHC:	1:200
WB:	1:500

Formulation

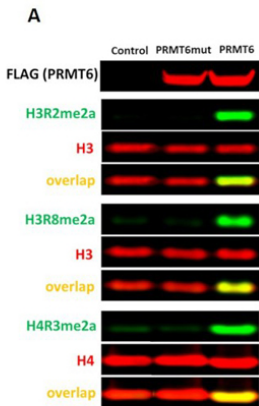
Physical State:	Liquid (sterile filtered)
Concentration:	0.84 mg/mL by UV absorbance at 280 nm

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

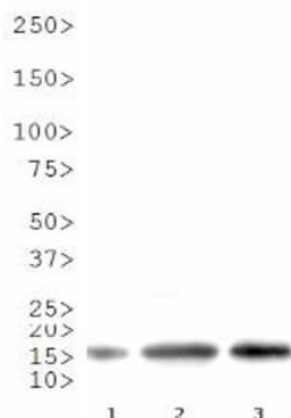
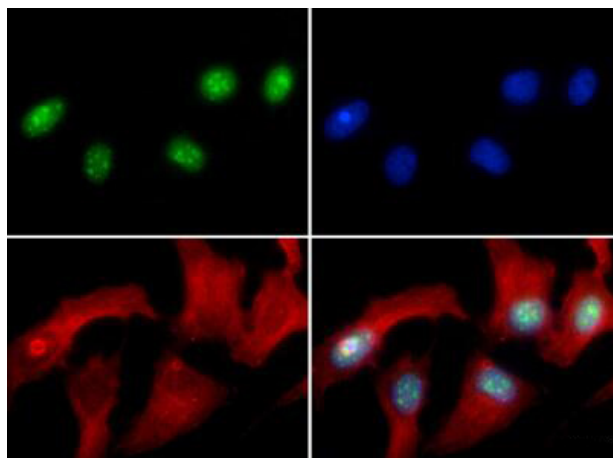
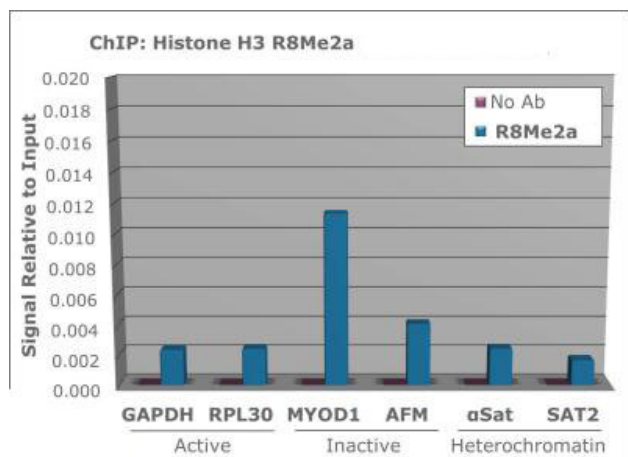
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several 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



Western Blot

PRMT6 cellular assay. (A) The overexpression of wild type (WT) but not V86K/D88A catalytic mutant PRMT6 increases H4R3me2a, H3R2me2a, and H3R8me2a levels in HEK293T cells. Cells were transfected with FLAG-tagged PRMT6 for 24 h. Fig 5. PMID: 34424246



ChIP

Chromatin Immunoprecipitation of Histone H3 [Asym-dimethyl Arg8] Antibody. Chromatin from one million formaldehyde cross-linked HeLa cells was used with 2ug of Anti-Histone H3 R8me2a 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 [Asym-dimethyl Arg8] Antibody. Tissue: HeLa cells. Fixation: 0.5% PFA. Antigen retrieval: Not required. Primary antibody: Histone H3 [Asym-dimethyl Arg8] 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 [Asym-dimethyl Arg8] is nuclear and chromosomal. Staining: Histone H3 [Asym-dimethyl Arg8] is expressed in green and the nuclei and alpha-tubulin are counterstained with DAPI (blue) and Dylight 594 (red).

Western Blot

Western Blot of Rabbit Anti-Histone H3 [Asym-dimethyl Arg8] Antibody. Lane 1: HeLa Histone Prep Lysate. 2. NIH-3T3 Prep Lysate. Lane 3: C. elegans embryo lysate. Load: 30 µg per lane. Primary antibody: Histone H3 [Asym-dimethyl Arg8] 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

- Szewczyk MM et al. Quantitative Methods to Study Protein Arginine Methyltransferase 1-9 Activity in Cells. *J Vis Exp.* (2021)
- Barsyte-Lovejoy D et al. Chemical biology approaches for characterization of epigenetic regulators. *Methods Enzymol.* (2016)

Disclaimer

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