

**Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody**  
**Histone H3 R2me2s/K4me2 Antibody**  
**Catalog # ASR5644****Specification****Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human, Mouse
Clonality	Polyclonal
Application	WB, IHC, I, LCI
Application Note	Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] antibody is tested for Western Blot, Chromatin Immunoprecipitation, Dot Blot, and Immunofluorescence. 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.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with synthetic dimethylated/dimethylated peptides surrounding Arginine 2 / Lysine 4 of human Histone H3.2.
Stabilizer	30% Glycerol
Preservative	0.01% (w/v) Sodium Azide

**Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody - Additional Information****Gene ID** 126961;333932;653604**Other Names**  
126961**Purity**

Anti-Histone H3 [Sym-dimethyl Arg2, 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.

**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.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

**Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody - Protein Information**

**Name** H3C15 ([HGNC:20505](#))

**Function**

Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called histone code, and nucleosome remodeling.

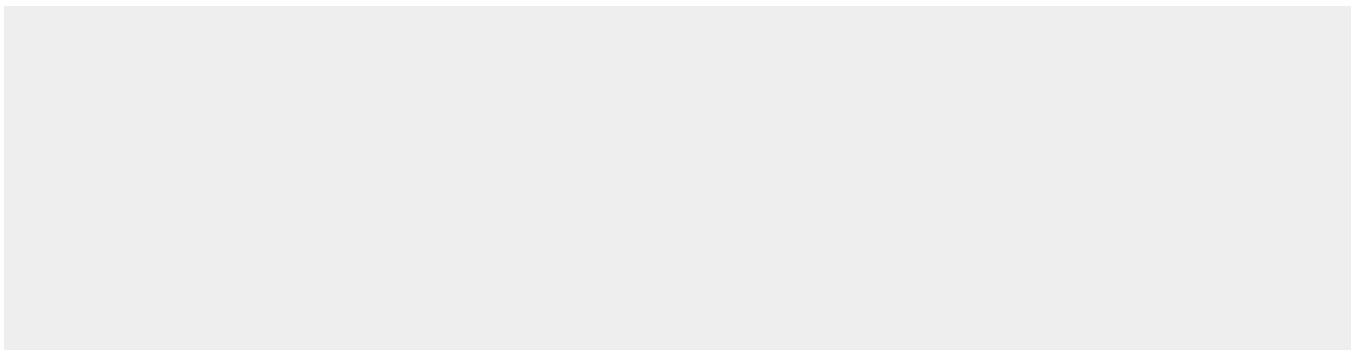
**Cellular Location**

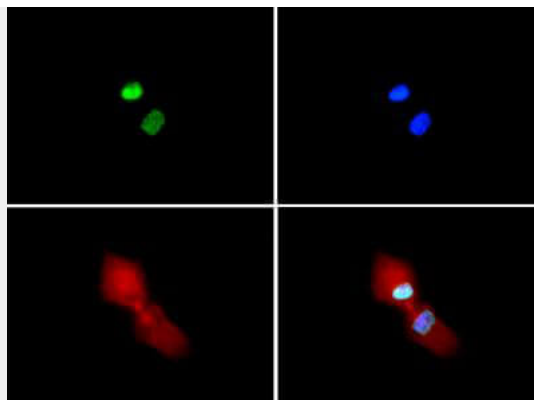
Nucleus. Chromosome.

**Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody - Images**



Immunofluorescence of Rabbit Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] Antibody. Tissue: HeLa cells. Fixation: 0.5% PFA. Antigen retrieval: Not required. Primary antibody: Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] 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 [Sym-dimethyl Arg2, Dimethyl Lys4] is nuclear and chromosomal. Staining: Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] is expressed in green, nuclei and alpha-tubulin are counterstained with DAPI (blue) and Dylight 594 (red).

#### **Anti-Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] (RABBIT) Antibody - 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. The dimethylation of both arginine 2 (H3 Arg2Me2) and lysine 4 (H3 K4Me2) of H3 are both known marks to have opposing affects. Arg2Me2 maintains transcriptional silence by silencing Set1 mediated K4 methylation, in which K4 methylation is normally associated with active chromatin. The protein arginine methyltransferase PRMT6 can methylate H3R2 *in vivo*, and overexpression of this enzyme downregulates Hox and Myc dependent genes, both of which are targets of H3 K4 methylation. Anti-Histone H3 are ideal for researchers interested in Chromatin Modifiers, Chromatin Research, Histones and Modified Histones, and Epigenetics research.