

**Symmetric Di-Methyl Histone H3 (Arg8)  
(E1W5H) Rabbit mAb****Orders:** 877-616-CELL (2355)  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	17	Rabbit IgG	#P68431	8350

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

Symmetric Di-Methyl Histone H3 (Arg8) (E1W5H) Rabbit mAb recognizes endogenous levels of histone H3 protein only when symmetrically di-methylated at Arg8. This antibody may have a slight cross reactivity towards histone H3 protein when mono-methylated at Arg8.

**Species predicted to react based on 100% sequence homology**Zebrafish, Bovine, *S. cerevisiae***Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human histone H3 in which Arg8 is symmetrically di-methylated.

**Background**

The nucleosome is the primary chromatin building block and consists of DNA wrapped around an octamer made of paired histone proteins H2A, H2B, H3, and H4. Chromatin remodeling plays a critical role in the regulation of various nuclear activities, including transcription. Histone proteins are targets of post-translational modification, including acetylation, phosphorylation, ubiquitination, and methylation. Modified histone residues are recognized and bound by chromatin modifiers and the transcription machinery to regulate gene expression (1-4). Protein arginine methyltransferases (PRMTs) methylate histone proteins at arginine residues to generate mono-methylated, symmetrically di-methylated, or asymmetrically di-methylated proteins. Asymmetrically di-methylated arginine residues are found on histone H3 (Arg2, 8, 17, 26, and 42), histone H4 (Arg3), and histone H2A (Arg3) proteins. Asymmetric methylation is carried out by type I PRMTs, which include PRMT1, PRMT2, PRMT4/CARM1, and PRMT6. These modifications are often associated with actively transcribed genes. Symmetric di-methylation of arginine residues are found on histone H3 (Arg2 and 8), histones H4 (Arg3), and H2A (Arg3). Symmetrically di-methylated histone arginine residues are generated by type II transferases PRMT5 and PRMT7, and are often associated with transcription repression (5-9). Arginine residues can also be deaminated by a peptidyl arginine deiminase (PADI) to form the non-coded amino acid citrulline. Conversion of arginine to citrulline prevents methylation of this residue and is thought to regulate histone arginine methylation levels (10-13).

**Background References**

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**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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