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[Primary Antibody]

Recombinant Rabbit Anti-Arginine (Symmetric di-methyl) Monoclonal Antibody

Catalog Number: SLA1153M

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Monoclonal
Clone No.:	9C1
Target:	Arginine (Symmetric di-methyl)
Immunogen:	A synthetic peptide corresponding to a sequence containing Symmetric Di-Methyl R.
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20℃ for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB (1:500-1000) IHC-P (1:100-500) ICC/IF (1:50-100) Not yet tested in other applications. Optimal working dilutions must be determined by the end user.
Background:	Arginine methylation is a prevalent PTM found on both nuclear and cytoplasmic proteins. Arginine methylated proteins are involved in many different cellular processes, including transcriptional regulation, signal transduction, RNA metabolism, and DNA damage repair Arginine methylation is carried out by the arginine N-methyltransferase (PRMT) family of enzymes that catalyze the transfer of a methyl group from S-adenosylmethionine (AdoMet) to a guanidine nitrogen of arginine . There are three different types of arginine methylation: asymmetric dimethylarginine (aDMA, omega-NG,NG-dimethylarginine), where two methyl groups are placed on one of the terminal nitrogen atoms of the guanidine group of arginine; symmetric dimethylarginine (sDMA, omega-NG,NG-dimethylarginine), where one methyl group is placed on each of the two terminal guanidine nitrogens of

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	arginine; and monomethylarginine (MMA, omega-NG-methylarginine), where a single methyl group is placed on one of the terminal nitrogen atoms of arginine. Each of these modifications has potentially different functional consequences. Though all PRMT proteins catalyze the formation of MMA, Type I PRMTs (PRMT1, 3, 4, 6, and 8) add an additional methyl group to produce aDMA, while Type II PRMTs (PRMT5 and 7) produce sDMA. Methylated arginine residues often reside in glycine-arginine rich (GAR) protein domains, such as RGG, RG, and RXR repeats . However, PRMT4/CARM1 and PRMT5 methylate arginine residues within proline-glycine-methionine rich (PGM) motifs. Symmetrically dimethylated (sDMA) histone H4R3 is prevalent in undifferentiated mouse embryonic neural precursors, but both symmetric and asymmetric dimethyl (aDMA) H4R3 modifications are detected in post-mitotic neurons and developing oligodendrocytes during later stages of development. This implies that sDMA modifications may be negative epigenetic regulatory events while aDMA modifications may signal epigenetic activation sites.

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