

**CARM1 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1505a****Specification**

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**CARM1 Antibody - Product Information**

Application	<b>WB, IHC, IF, FC</b>
Primary Accession	<a href="#">Q86X55</a>
Reactivity	<b>Human, Rat, Monkey</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>65kDa KDa</b>

**Description**

Protein arginine N-methyltransferases, such as CARM1, catalyze the transfer of a methyl group from S-adenosyl-L-methionine to the side chain nitrogens of arginine residues within proteins to form methylated arginine derivatives and S-adenosyl-L-homocysteine. Protein arginine methylation has been implicated in signal transduction, metabolism of nascent pre-RNA, and transcriptional activation (Frankel et al. 2002 (PubMed 11724789)). Tissue specificity: Overexpressed in prostate adenocarcinomas and high-grade prostatic intraepithelial neoplasia.

**Immunogen**

Purified recombinant fragment of human CARM1 expressed in E. Coli.

**Formulation**

Ascitic fluid containing 0.03% sodium azide.

**CARM1 Antibody - Additional Information**

**Gene ID** 10498

**Other Names**

Histone-arginine methyltransferase CARM1, 2.1.1.-, 2.1.1.125, Coactivator-associated arginine methyltransferase 1, Protein arginine N-methyltransferase 4, CARM1, PRMT4

**Dilution**

WB~~1/500 - 1/2000  
IHC~~1/200 - 1/1000  
IF~~1/200 - 1/1000  
FC~~1/200 - 1/400

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

CARM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## CARM1 Antibody - Protein Information

**Name** CARM1

**Synonyms** PRMT4

### Function

Methylates (mono- and asymmetric dimethylation) the guanidino nitrogens of arginyl residues in several proteins involved in DNA packaging, transcription regulation, pre-mRNA splicing, and mRNA stability (PubMed:<a href="http://www.uniprot.org/citations/12237300" target="\_blank">12237300</a>, PubMed:<a href="http://www.uniprot.org/citations/16497732" target="\_blank">16497732</a>, PubMed:<a href="http://www.uniprot.org/citations/19405910" target="\_blank">19405910</a>). Recruited to promoters upon gene activation together with histone acetyltransferases from EP300/P300 and p160 families, methylates histone H3 at 'Arg-17' (H3R17me), forming mainly asymmetric dimethylarginine (H3R17me2a), leading to activates transcription via chromatin remodeling (PubMed:<a href="http://www.uniprot.org/citations/12237300" target="\_blank">12237300</a>, PubMed:<a href="http://www.uniprot.org/citations/16497732" target="\_blank">16497732</a>, PubMed:<a href="http://www.uniprot.org/citations/19405910" target="\_blank">19405910</a>). During nuclear hormone receptor activation and TCF7L2/TCF4 activation, acts synergically with EP300/P300 and either one of the p160 histone acetyltransferases NCOA1/SRC1, NCOA2/GRIP1 and NCOA3/ACTR or CTNNB1/beta-catenin to activate transcription (By similarity). During myogenic transcriptional activation, acts together with NCOA3/ACTR as a coactivator for MEF2C (By similarity). During monocyte inflammatory stimulation, acts together with EP300/P300 as a coactivator for NF-kappa-B (By similarity). Acts as a coactivator for PPARG, promotes adipocyte differentiation and the accumulation of brown fat tissue (By similarity). Plays a role in the regulation of pre-mRNA alternative splicing by methylation of splicing factors (By similarity). Also seems to be involved in p53/TP53 transcriptional activation (By similarity). Methylates EP300/P300, both at 'Arg-2142', which may loosen its interaction with NCOA2/GRIP1, and at 'Arg-580' and 'Arg-604' in the KIX domain, which impairs its interaction with CREB and inhibits CREB-dependent transcriptional activation (PubMed:<a href="http://www.uniprot.org/citations/15731352" target="\_blank">15731352</a>). Also methylates arginine residues in RNA-binding proteins PABPC1, ELAVL1 and ELAV4, which may affect their mRNA- stabilizing properties and the half-life of their target mRNAs (By similarity). Acts as a transcriptional coactivator of ACACA/acetyl-CoA carboxylase by enriching H3R17 methylation at its promoter, thereby positively regulating fatty acid synthesis (By similarity). Independently of its methyltransferase activity, involved in replication fork progression: promotes PARP1 recruitment to replication forks, leading to poly-ADP-ribosylation of chromatin at replication forks and reduced fork speed (PubMed:<a href="http://www.uniprot.org/citations/33412112" target="\_blank">33412112</a>).

### Cellular Location

Nucleus. Cytoplasm. Chromosome. Note=Mainly nuclear during the G1, S and G2 phases of the cell cycle (PubMed:19843527). Cytoplasmic during mitosis, after breakup of the nuclear membrane (PubMed:19843527) Localizes to replication forks (PubMed:33412112)

### Tissue Location

Overexpressed in prostate adenocarcinomas and high- grade prostatic intraepithelial neoplasia

## CARM1 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)

- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

### CARM1 Antibody - Images

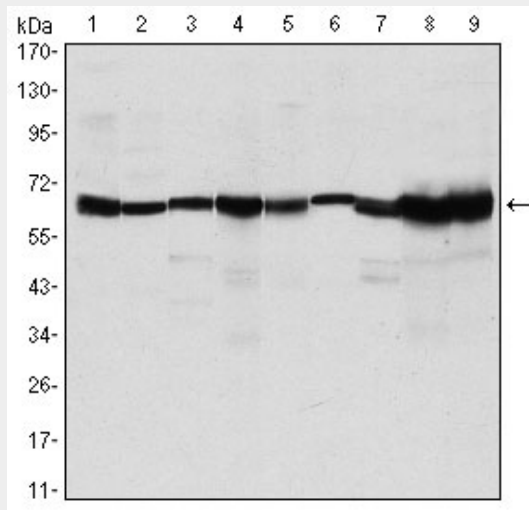


Figure 1: Western blot analysis using CARM1 mouse mAb against MCF-7 (1), HeLa (2), NIH/3T3 (3), HL-60 (4), LNCap (5), Jurkat (6), PC-3 (7), Cos7 (8), and PC-12 (9) cell lysate.

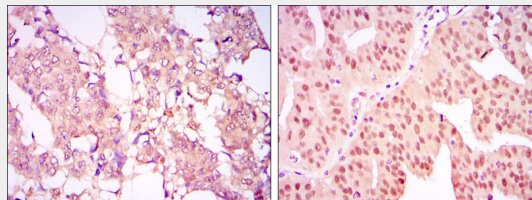


Figure 2: Immunohistochemical analysis of paraffin-embedded breast cancer tissues (left) and ovarian cancer tissues (right) using CARM1 mouse mAb with DAB staining.

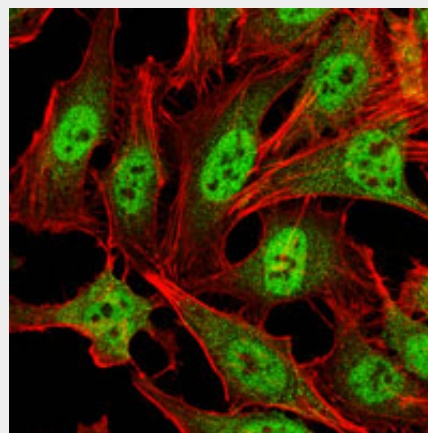


Figure 3: Immunofluorescence analysis of HeLa cells using CARM1 mouse mAb (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

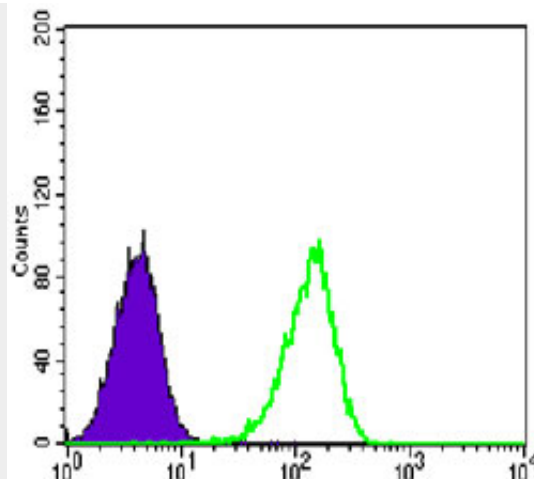


Figure 4: Flow cytometric analysis of Lovo cells using CARM1 mouse mAb (green) and negative control (purple).

#### **CARM1 Antibody - References**

1. FASEB J. 2008 Sep;22(9):3337-47.
2. Nucleic Acids Res. 2008 Jun;36(10):3202-13.