

**KD-Validated Anti-PRMT1 Rabbit Monoclonal Antibody**  
Rabbit monoclonal antibody  
Catalog # AGI1876**Specification****KD-Validated Anti-PRMT1 Rabbit Monoclonal Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q99873</a>
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 42 kDa, observed, 42 kDa KDa
Gene Name	PRMT1
Aliases	PRMT1; Protein Arginine Methyltransferase 1; HRMT1L2; HCP1; ANM1; HMT1 (HnRNP Methyltransferase, S. Cerevisiae)-Like 2; Histone-Arginine N-Methyltransferase PRMT1; Protein Arginine N-Methyltransferase 1; Interferon Receptor 1-Bound Protein 4; Highly Conserved Protein 1; IR1B4; Heterogeneous Nuclear Ribonucleoprotein Methyltransferase 1-Like 2; HMT1 HnRNP Methyltransferase-Like 2 (S. Cerevisiae); EC 2.1.1.319; EC 2.1.1.77; EC 2.1.1; HMT2
Immunogen	A synthesized peptide derived from human PRMT1

**KD-Validated Anti-PRMT1 Rabbit Monoclonal Antibody - Additional Information**

Gene ID	3276
<b>Other Names</b>	Protein arginine N-methyltransferase 1, 2.1.1.319, Histone-arginine N-methyltransferase PRMT1, Interferon receptor 1-bound protein 4, PRMT1 ( <a href="http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=5187" target="_blank">http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=5187</a> )
	<a href="http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=5187" target="_blank">HGNC:5187</a>

**KD-Validated Anti-PRMT1 Rabbit Monoclonal Antibody - Protein Information**Name PRMT1 ([HGNC:5187](#))**Function**

Arginine methyltransferase that methylates (mono and asymmetric dimethylation) the guanidino nitrogens of arginyl residues present in proteins such as ESR1, histone H2, H3 and H4, FMR1, ILF3, HNRNPA1, HNRNPD, NFATC2IP, SUPT5H, TAF15, EWS, HABP4, SERBP1, RBM15, FOXO1, CHTOP, MAP3K5/ASK1, MICU1 and NPRL2 (PubMed: [10749851](http://www.uniprot.org/citations/10749851), PubMed: [15741314](http://www.uniprot.org/citations/15741314), PubMed: [16879614](http://www.uniprot.org/citations/16879614))

target="\_blank">16879614</a>, PubMed:<a href="http://www.uniprot.org/citations/18951090" target="\_blank">18951090</a>, PubMed:<a href="http://www.uniprot.org/citations/22095282" target="\_blank">22095282</a>, PubMed:<a href="http://www.uniprot.org/citations/25284789" target="\_blank">25284789</a>, PubMed:<a href="http://www.uniprot.org/citations/26575292" target="\_blank">26575292</a>, PubMed:<a href="http://www.uniprot.org/citations/26876602" target="\_blank">26876602</a>, PubMed:<a href="http://www.uniprot.org/citations/27642082" target="\_blank">27642082</a>, PubMed:<a href="http://www.uniprot.org/citations/30765518" target="\_blank">30765518</a>, PubMed:<a href="http://www.uniprot.org/citations/31257072" target="\_blank">31257072</a>, PubMed:<a href="http://www.uniprot.org/citations/38006878" target="\_blank">38006878</a>). Constitutes the main enzyme that mediates monomethylation and asymmetric dimethylation of histone H4 'Arg-3' (H4R3me1 and H4R3me2a, respectively), a specific tag for epigenetic transcriptional activation. May be involved in the regulation of TAF15 transcriptional activity, act as an activator of estrogen receptor (ER)-mediated transactivation, play a key role in neurite outgrowth and act as a negative regulator of megakaryocytic differentiation, by modulating p38 MAPK pathway. Methylates RBM15, promoting ubiquitination and degradation of RBM15 (PubMed:<a href="http://www.uniprot.org/citations/26575292" target="\_blank">26575292</a>). Methylates MRE11 and TP53BP1, promoting the DNA damage response (PubMed:<a href="http://www.uniprot.org/citations/15741314" target="\_blank">15741314</a>, PubMed:<a href="http://www.uniprot.org/citations/16294045" target="\_blank">16294045</a>, PubMed:<a href="http://www.uniprot.org/citations/29651020" target="\_blank">29651020</a>). Methylates FOXO1 and retains it in the nucleus increasing its transcriptional activity (PubMed:<a href="http://www.uniprot.org/citations/18951090" target="\_blank">18951090</a>). Methylates CHTOP and this methylation is critical for its 5-hydroxymethylcytosine (5hmC)-binding activity (PubMed:<a href="http://www.uniprot.org/citations/25284789" target="\_blank">25284789</a>). Methylates MAP3K5/ASK1 at 'Arg-78' and 'Arg-80' which promotes association of MAP3K5 with thioredoxin and negatively regulates MAP3K5 association with TRAF2, inhibiting MAP3K5 stimulation and MAP3K5-induced activation of JNK (PubMed:<a href="http://www.uniprot.org/citations/22095282" target="\_blank">22095282</a>). Methylates H4R3 in genes involved in glioblastomagenesis in a CHTOP- and/or TET1- dependent manner (PubMed:<a href="http://www.uniprot.org/citations/25284789" target="\_blank">25284789</a>). Plays a role in regulating alternative splicing in the heart (By similarity). Methylates NPRL2 at 'Arg-78' leading to inhibition of its GTPase activator activity and then the GATOR1 complex and consequently inducing timely mTORC1 activation under methionine-sufficient conditions (PubMed:<a href="http://www.uniprot.org/citations/38006878" target="\_blank">38006878</a>).

### Cellular Location

Nucleus. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q9JIF0}. Cytoplasm. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JIF0}. Lysosome membrane. Note=Mostly found in the cytoplasm Colocalizes with CHTOP within the nucleus. Low levels detected also in the chromatin fraction (By similarity). Upon methionine stimulation, localizes to the lysosome membrane in an NPRL2-dependent manner (PubMed:38006878). {ECO:0000250|UniProtKB:Q9JIF0, ECO:0000269|PubMed:38006878}

### Tissue Location

Widely expressed (PubMed:11097842). Expressed strongly in colorectal cancer cells (at protein level) (PubMed:28040436). Expressed strongly in colorectal cancer tissues compared to wild-type colon samples (at protein level) (PubMed:28040436). Expressed strongly in colorectal cancer tissues compared to wild-type colon samples (PubMed:28040436)

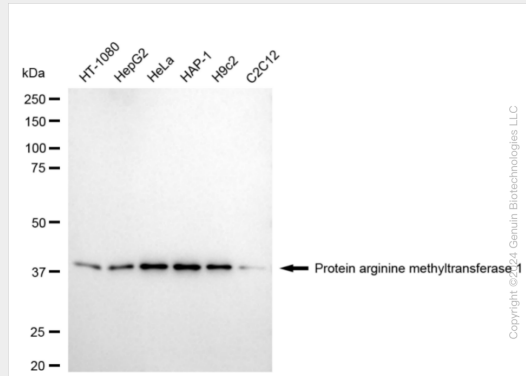
### KD-Validated Anti-PRMT1 Rabbit Monoclonal Antibody - Protocols

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

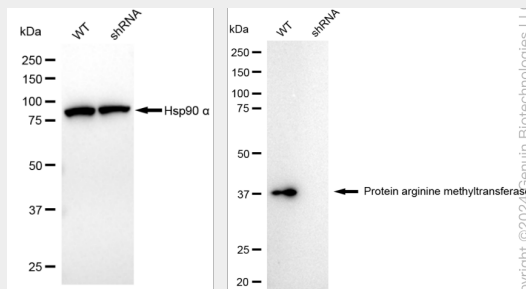
- [Western Blot](#)

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

### KD-Validated Anti-PRMT1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-protein arginine methyltransferase 1 antibody (Cat#AGI1876). Total cell lysates (30  $\mu$ g) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-protein arginine methyltransferase 1 antibody (Cat#AGI1876, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-protein arginine methyltransferase 1 antibody (Cat#AGI1876). Protein arginine methyltransferase 1 expression in wild-type (WT) and protein arginine methyltransferase 1 (PRMT1) shRNA knockdown (KD) HeLa cells with 20  $\mu$ g of total cell lysates. Hsp90  $\alpha$  serves as a loading control. The blot was incubated with anti-protein arginine methyltransferase 1 antibody (Cat#AGI1876, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.