

Dnmt1 Rabbit mAb

Catalog # AP78995

Product Information

Application	WB, IHC-P, IF, ICC
Primary Accession	P26358
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human Dnmt1
Purification	Affinity Chromatography
Calculated MW	183165

Additional Information

Gene ID	1786
Other Names	DNMT1
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IF~~1:50~200 ICC~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	DNMT1 {ECO:0000303 Ref.3, ECO:0000312 HGNC:HGNC:2976}
Function	DNA methyltransferase that methylates CpG residues (PubMed: 17200670 , PubMed: 18754681 , PubMed: 21745816 , PubMed: 26070743). Preferentially methylates hemimethylated DNA (PubMed: 21745816 , PubMed: 26070743). Associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand, that is essential for epigenetic inheritance (PubMed: 17200670 , PubMed: 21745816). Associates with chromatin during G2 and M phases to maintain DNA methylation independently of replication (PubMed: 21745816). It is responsible for maintaining methylation patterns established in development (PubMed: 21745816). DNA methylation is coordinated with methylation of histones (PubMed: 16357870). Mediates transcriptional repression by direct binding to HDAC2 (PubMed: 10888872). In association with DNMT3B and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and

H3K9 (PubMed:[18413740](#)). Probably forms a corepressor complex required for activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) or other tumor-related genes in colorectal cancer (CRC) cells (PubMed:[24623306](#)). Also required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (PubMed:[24623306](#)). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing (PubMed:[24623306](#)).

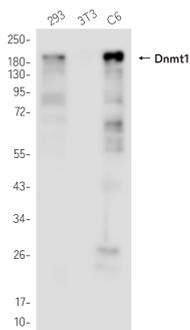
Cellular Location

Nucleus. Chromosome Note=Associates with replication foci during S-phase: recruited to hemimethylated DNA sites via its RFTS domain, which specifically recognizes and binds histone H3 ubiquitinated at 'Lys-14', 'Lys-18' and 'Lys-23' (H3K14ub, H3K18ub and H3K23ub, respectively) (PubMed:29053958). Localized to the perinucleolar region (PubMed:24492612).

Tissue Location

Ubiquitous; highly expressed in fetal tissues, heart, kidney, placenta, peripheral blood mononuclear cells, and expressed at lower levels in spleen, lung, brain, small intestine, colon, liver, and skeletal muscle. Isoform 2 is less expressed than isoform 1.

Images



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