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Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1)

Mouse Anti Human Monoclonal Antibody
Catalog # ALS17587

Specification

Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1) - Product Information

Application	**WB, IHC-P, IP, CHIP**
Primary Accession	P26358
Predicted	**Human, Mouse, Rabbit, Monkey, Horse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**183165**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **IP~~N/A** **CHIP~~N/A**

Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1) - Additional Information

Gene ID 1786

Alias Symbol	**DNMT1**

Other Names
DNMT1, AIM, CXXC finger protein 9, CXXC9, DNA methyltransferase 1, DNMT, DNA methyltransferase HsaI, DNA MTase HsaI, HSN1E, M.HsaI, MCMT

Target/Specificity
A synthetic peptide corresponding to amino acids 637-650 (EKDDREDKENAFKR) of human Dnmt1 (Genbank Accession No. NP_001370). It will cross react with mouse Dnmt1.

Reconstitution & Storage
Protein G purified

Precautions
Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1) is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1) - 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.

Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-DNMT / DNMT1 Antibody (aa637-650, clone 60B1220.1) - Images