

Rabbit DNMT1 Polyclonal Antibody | anti-DNMT1 antibody

DNMT1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA327077	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

DNMT1; Polyclonal Antibody; DNMT1 Antibody; ADCADN; AIM; CXXC finger protein 9; CXXC-type zinc finger protein 9; CXXC9; DNA (cytosine 5) methyltransferase 1; DNA (cytosine-5)-methyltransferase 1; DNA methyltransferase 1; DNA methyltransferase Hsa1; DNA methyltransferase M.Hsa1.; DNA MTase; DNA MTase Hsa1; DNMT 1; DNMT; Dnmt1; DNMT1_HUMAN; Dnmt1o; FLJ16293; HSN1E; M.Hsa1; MCMT; Met1; MGC104992; mMmul; MommeD2; anti-DNMT1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Dnmt1 antibody detects endogenous levels of total Dnmt1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1632
Applicable Applications for anti-DNMT1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Dnmt1
Subcellular Location	Nucleus.
Tissue Specificity	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.
Predicted Cross Reactivity	Bovine, Horse, Sheep
Similarity	Bovine (91%), Horse (100%), Sheep (91%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemisry)

AAA327077 at 1/100 staining Mouse muscle tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

F7376 staining HEPG2 cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/200 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



WB (Western Blot)

Western blot analysis of extracts of hela, using Dnmt1 antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-DNMT1 antibody

Description: DNA (cytosine-5-)-methyltransferase 1 has a role in the establishment and regulation of tissue-specific patterns of methylated cytosine residues. Aberrant methylation patterns are associated with certain human tumors and developmental abnormalities. Two transcript variants encoding different isoforms have been found for this gene. Function: Methylates CpG residues. Preferentially methylates hemimethylated DNA. Associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand, that is essential for epigenetic inheritance. Associates with chromatin during G2 and M phases to maintain DNA methylation independently of replication. It is responsible for maintaining methylation patterns established in development. DNA methylation is coordinated with methylation of histones. Mediates transcriptional repression by direct binding to HDAC2. 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. 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). Promotes tumor growth (PubMed:24623306). Subunit Structure: Homodimer (PubMed:19173286). Forms a stable complex with E2F1, BB1 and HDAC1 (PubMed:10888886). Forms a complex with DMAP1 and HDAC2, with direct interaction (PubMed:10888872). Interacts with the PRC2/EED-EZH2 complex (PubMed:16357870). Probably part of a corepressor complex containing ZNF304, TRIM28, SETDB1 and DNMT1 (PubMed:24623306). Interacts with UHRF1; promoting its recruitment to hemimethylated DNA (PubMed:21745816). Interacts with USP7, promoting its deubiquitination (PubMed:21745816). Interacts with PCNA (PubMed:9302295). Interacts with MBD2 and MBD3 (PubMed:10947852). Interacts with DNMT3A and DNMT3B (PubMed:12145218). Interacts with UBC9 (PubMed:19450230). Interacts with CSNK1D (By similarity). Interacts with HDAC1 (By similarity). Interacts with BAZ2A/TIP5 (By similarity). Post-translational Modifications: Sumoylated; sumoylation increases activity. Acetylation on multiple lysines, mainly by KAT2B/PCAF, regulates cell cycle G2/M transition. Deacetylation of Lys-1349 and Lys-1415 by SIRT1 increases methyltransferase activity. Phosphorylation of Ser-154 by CDKs is important for enzymatic activity and protein stability. Phosphorylation of Ser-143 by AKT1 prevents methylation by SETD7 thereby increasing DNMT1 stability. Methylation at Lys-142 by SETD7 promotes DNMT1 proteasomal degradation. Ubiquitinated by UHRF1; interaction with USP7 counteracts ubiquitination by UHRF1 by promoting deubiquitination and preventing degradation by the proteasome. Similarity: The N-terminal part is required for homodimerization and acts as a regulatory domain. The CXXC-type zinc finger specifically binds to unmethylated CpG dinucleotides, positioning the autoinhibitory linker between the DNA and the active site, thus providing a mechanism to ensure that only hemimethylated CpG dinucleotides undergo methylation. Belongs to the class I-like SAM-binding methyltransferase superfamily. C5-methyltransferase family.

NCBI AND UNIPROT INFORMATION

NCBI GI # 195927037

NCBI GeneID	1786
NCBI Accession #	NP_001124295.1
NCBI GenBank Nucleotide #	NM_001130823.2
UniProt Accession #	P26358; Q9UHG5; Q9ULA2; Q9UMZ6; A0AV63; B7ZLW6
Molecular Weight	Observed: 183 kDa Predicted: 184 kDa
NCBI Official Full Name	DNA (cytosine-5)-methyltransferase 1 isoform a
NCBI Official Synonym Full Names	DNA methyltransferase 1
NCBI Official Symbol	DNMT1
NCBI Official Synonym Symbols	AIM; DNMT; MCMT; CXXC9; HSN1E; ADCADN; m.HsaI
NCBI Protein Information	DNA (cytosine-5)-methyltransferase 1
UniProt Protein Name	DNA (cytosine-5)-methyltransferase 1
UniProt Gene Name	DNMT1
UniProt Synonym Gene Names	AIM; CXXC9; DNMT; Dnmt1; DNA MTase HsaI; M.HsaI

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/dnmt1-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/327077>