10320 Camino Santa Fe, Suite G
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DNMT1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10734

Specification

DNMT1 Antibody - Product Information

Application	**WB**
Primary Accession	Q9Z330
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**182774**

DNMT1 Antibody - Additional Information

Positive Control	**Rat kidney tissue lysate**
Application & Usage	**Western blot analysis (0.5-4 µg/ml). However, the optimal conditions should be determined individually. Rat kidney tissue lysate can be used as a positive control.**

Other Names
DNA (cytosine-5)-methyltransferase 1, Dnmt1, CXXC-type zinc finger protein 9, DNA methyltransferase HsaI, DNA MTase HsaI, M.HsaI, MCMT

Target/Specificity
DNMT1

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) affinity purified rabbit anti-DNMT1 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
DNMT1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

DNMT1 Antibody - Protein Information

Name Dnmt1

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. Also required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing. Promotes tumor growth.

Cellular Location
Nucleus.

Tissue Location
Isoforms 0 and 8 are highly expressed in placenta, brain, lung, spleen, kidney, heart, and at much lower levels in liver Isoform 1 is expressed in cerebellum, isoform 2 in muscle and testis, isoform 3 in lung, isoform 4 in spleen and brain, and isoform 5 in brain

DNMT1 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 Cytomety
- Cell Culture

DNMT1 Antibody - Images

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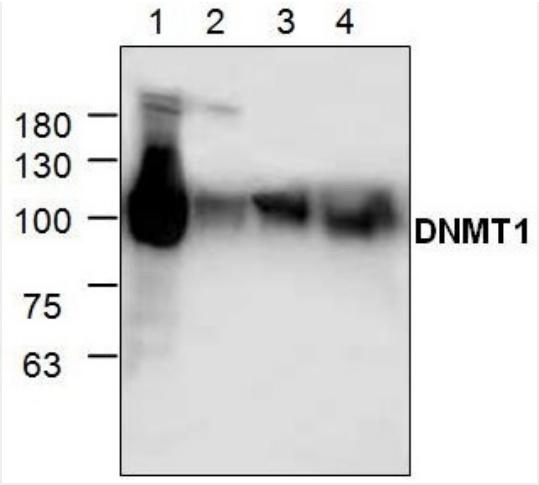

Western blot analysis of DMNT1 with lysate from rat kidney tissue (Lane 1), 3T3 cells (Lane 2) and Jurkat cells (Lane 3 & 4).

DNMT1 Antibody - Background

Methylation of DNA at cytosine residues plays an important role in regulation of gene expression, genomic imprinting and is essential for mammalian development. Hypermethylation of CpG islands in tumor suppressor genes or hypomethylation of bulk genomic DNA may be linked with development of cancer. To date, 3 families of mammalian DNA methyltransferase genes have been identified which include Dnmt1, Dnmt2 and Dnmt3. Dnmt1 is constitutively expressed in proliferating cells and inactivation of this gene causes global demethylation of genomic DNA and embryonic lethality.