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KD-Validated Anti-DNA Methyltransferase 1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1798

Specification

KD-Validated Anti-DNA Methyltransferase 1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	P26358
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 183 kDa, o bserved , 200 k Da KDa**
Gene Name	**DNMT1**
Aliases	**DNMT1; DNA Methyltransferase 1; CXXC9; MCMT; DNMT; DNA (Cytosine-5-)-Methyltransferase 1; DNA (Cytosine-5)-Methyltransferase 1; CXXC-Type Zinc Finger Protein 9; DNA Methyltransferase HsaI; DNA MTase HsaI; EC 2.1.1.37; M.HsaI; AIM; ADCADN; HSN1E; Dnmt1**
Immunogen	**A synthesized peptide derived from human Dnmt1**

KD-Validated Anti-DNA Methyltransferase 1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**1786**

Other Names
DNA (cytosine-5)-methyltransferase 1, Dnmt1, 2.1.1.37, CXXC-type zinc finger protein 9, DNA methyltransferase HsaI, DNA MTase HsaI, M.HsaI, MCMT, DNMT1, AIM, CXXC9, DNMT

KD-Validated Anti-DNA Methyltransferase 1 Rabbit Monoclonal Antibody - Protein Information

Name DNMT1

Synonyms AIM, CXXC9, DNMT

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).

Cellular Location
Nucleus. Note=Localized to the perinucleolar region.

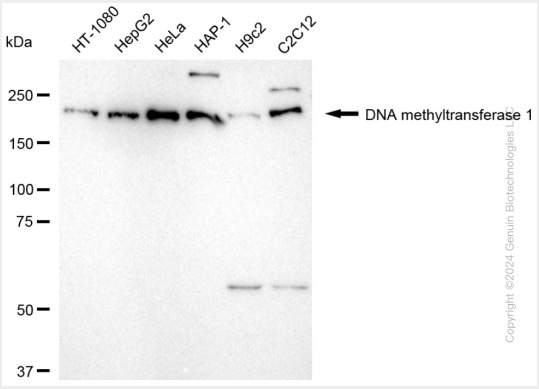
Tissue Location
Ubiquitous; highly expressed in fetal tissues, heart, kidney, placenta, peripheral blood mononuclear cells, and expressed at lower levels in spleen, lung, brain, small intestine, colon, liver, and skeletal muscle. Isoform 2 is less expressed than isoform 1.

KD-Validated Anti-DNA Methyltransferase 1 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 Cytomety
- Cell Culture

KD-Validated Anti-DNA Methyltransferase 1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-DNA methyltransferase 1 antibody (Cat#AGI1798). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-DNA methyltransferase 1 antibody (Cat#AGI1798, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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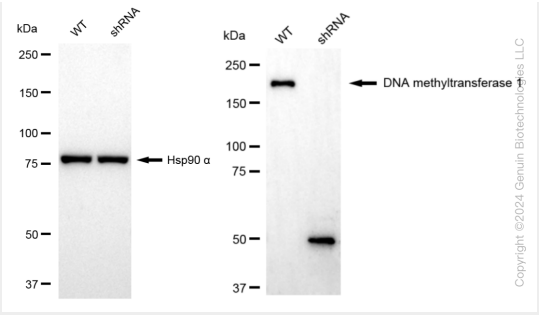
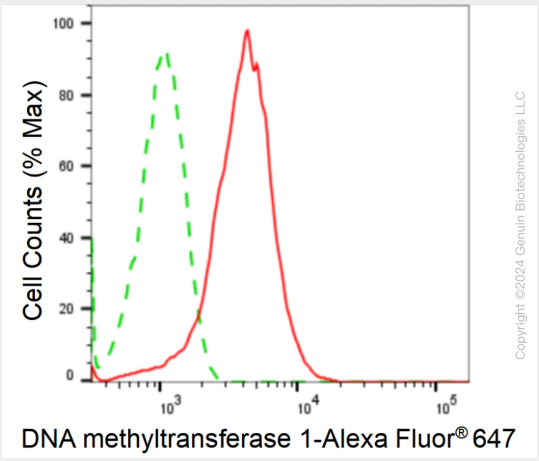
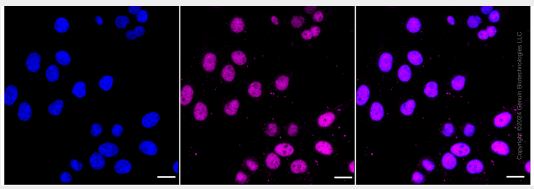


Western blotting analysis using anti-DNA methyltransferase 1 antibody (Cat#AGI1798). DNA methyltransferase 1 expression in wild type (WT) and DNA methyltransferase 1 (DNMT1) shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-DNA methyltransferase 1 antibody (Cat#AGI1798, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of DNA methyltransferase 1 expression in HepG2 cells using anti-DNA methyltransferase 1 antibody (Cat#AGI1798, 1:2,000). Green, isotype control; red, DNA methyltransferase 1.



Immunocytochemical staining of HepG2 cells with DNA methyltransferase 1 antibody (Cat#AGI1798, 1:1,000). Nuclei were stained blue with DAPI; DNA methyltransferase 1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: High. Scale bar: 20 µm.