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# Rabbit Anti-Dnmt1 antibody

SL0678R

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|---|---|
| **Product Name** | Dnmt1 |
| **Chinese Name** | DNA 甲基转移酶 1 抗体 |
| **Alias** | 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 HsaI; DNA methyltransferase M.HsaI.; DNA MTase; DNA MTase HsaI; DNMT 1; DNMT; Dnmt1; Dnmt1; DNMT1_HUMAN; Dnmt1o; FLJ16293; HSN1E; M.HsaI; MCMT; Met1; MGC104992; mMmul; MommeD2. |
| **Research Area** | Tumour Apoptosis |
| **Immunogen Species** | Rabbit |
| **Clonality** | Polyclonal |
| **React Species** | Human, Mouse, Rat, (predicted: Chicken, Dog, Pig, Cow, Horse, Sheep, ) |
| **Applications** | WB=1:500-2000<br>not yet tested in other applications.<br>optimal dilutions/concentrations should be determined by the end user. |
| **Theoretical molecular weight** | 178kDa |
| **Cellular localization** | The nucleus |
| **Form** | Liquid |
| **Concentration** | 1mg/ml |
| **immunogen** | KLH conjugated synthetic peptide derived from human Dnmt1: 21-120/1616 |
| **Lsotype** | IgG |
| **Purification** | affinity purified by Protein A |
| **Buffer Solution** | 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol. |
| **Storage** | Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. |
| **Attention** | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **PubMed** | PubMed |

**Product Detail**

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. [provided by RefSeq, Aug 2008].

**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.

**Subunit:**
Binds to CSNK1D (By similarity). Homodimer. Interacts with HDAC1 and with PCNA. Forms a complex with DMAP1 and HDAC2, with direct interaction. Forms also a stable complex with E2F1, BB1 and HDAC1. Binds MBD2 and MBD3. Component of complexes containing SUV39H1. Interacts with DNMT3A and DNMT3B. Interacts with the PRC2/EED-EZH2 complex. Interacts with UBC9 and BAZ2A/TIP5.

**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.

**Post-translational modifications:**
Sumoylated; sumoylation increases activity.
Acetylation on multiple lysines, mainly by KAT2B/PCAF, regulates cell cycle G(2)/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 therebye increasing DNMT1 stability.

Methylation at Lys-142 by SETD7 promotes DNMT1 proteasomal degradation.

**DISEASE:**
Defects in DNMT1 are the cause of hereditary sensory neuropathy type 1E (HSN1E) [MIM:614116]. A neurodegenerative disorder characterized by adult onset of progressive peripheral sensory loss associated with progressive hearing impairment and early-onset dementia.

**Similarity:**
Belongs to the C5-methyltransferase family.
Contains 2 BAH domains.
Contains 1 CXXC-type zinc finger.

**SWISS:**
P26358

**Gene ID:**
1786

**Database links:**

Entrez Gene: 1786 Human

Entrez Gene: 13433 Mouse

Omim: 126375 Human

SwissProt: P26358 Human

SwissProt: P13864 Mouse

Unigene: 202672 Human

Unigene: 128580 Mouse

DNA 甲基转移酶-1 在多种 Tumour 细胞中表达量相当高，而在正常成人细胞中则低表达，因此 dnmt1 基因的高表达与 Tumour 的发生有密切的关系。 dnmt-1 对细胞周期、增殖及凋亡有一定的的影响。The nucleus 表达
(isoform CRA_a)为抑制细胞增殖、促进 Apoptosis，为 Tumour 的基因治疗提供依据。

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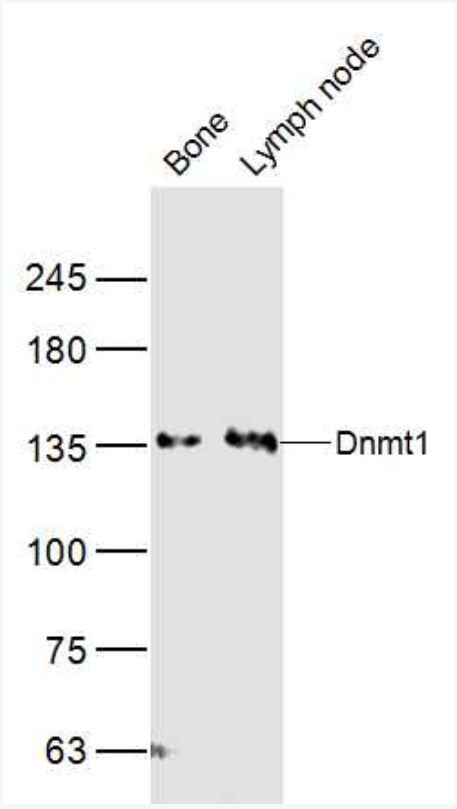
**Product Picture**




Sample:

Bone (Mouse) Lysate at 40 ug

Lymph node(Rat) Lysate at 40 ug

Primary: Anti- Dnmt1 (SL0678R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 178kD

Observed band size: 144 kD