SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-Dnmt1 antibody

Catalog Number: SL23636R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Dnmt1
Immunogen:	KLH conjugated synthetic peptide derived from human Dnmt1: 921-1020/1616
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human(predicted:Mouse,Rat,Dog,Pig,Cow,Horse,Sheep)
Predicted MW.:	178kDa
Subcellular Location:	The nucleus
Background:	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

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	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. **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

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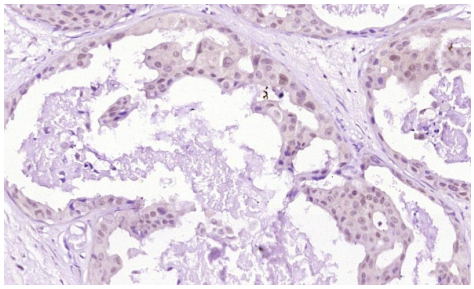
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[VALIDATION IMAGES]



Paraformaldehyde-fixed, paraffin embedded (Human breast carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Dnmt1) Polyclonal Antibody, Unconjugated (SL23636R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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