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## DNMT3L Polyclonal Antibody

(Catalog # A-1005)

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### Background

Methylation of DNA at cytosine residues in mammalian cells is a heritable, epigenetic modification that is critical for proper regulation of gene expression, genomic imprinting, and development. Three families of mammalian DNA methyltransferases have been identified: DNMT1, DNMT2, and DNMT3. DNMT1 is constitutively expressed in proliferating cells and functions as a maintenance methyltransferase, transferring proper methylation patterns to newly synthesized DNA during replication. DNMT3A and DNMT3B are strongly expressed in embryonic stem cells with reduced expression in adult somatic tissues. DNMT3A and DNMT3B function as de novo methyltransferases that methylate previously unmethylated regions of DNA. DNMT2 is expressed at low levels in adult somatic tissues and its inactivation affects neither de novo nor maintenance DNA methylation. DNMT3L is a catalytically inactive regulatory factor for the DNMT3A and DNMT3B de novo methyltransferases that is expressed at low levels in embryonic stem cells, testis, ovaries, and thymus. These de novo methyltransferases consist of a heterotetrameric complex containing two molecules of DNMT3L, and either two molecules of DNMT3A or DNMT3B. DNMT3L contains an amino-terminal ATRX-DNMT3-DNMT3L (ADD) domain and a carboxy-terminal methyltransferase-like domain. The methyltransferase-like domain binds to DNMT3A and DNMT3B to stimulate catalytic activity by increasing the binding of S-adenosylmethionine and DNA. The ADD domain recruits the methyltransferase complex to transcriptionally inactive regions of the genome by binding to unmethylated histone H3 Lys4.

### Description

DNMT3L Polyclonal Antibody. Unconjugated. Raised in: Rabbit.

### Formulation

Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

### Specificity

Human, Mouse, Rat

### Isotype

IgG

### Uniprot ID

Q9UJW3

### Purification

Affinity Purified

### Immunogen

A synthetic peptide corresponding to a sequence within amino acids 100-200 of human DNMT3L (NP\_787063.1).

### Storage

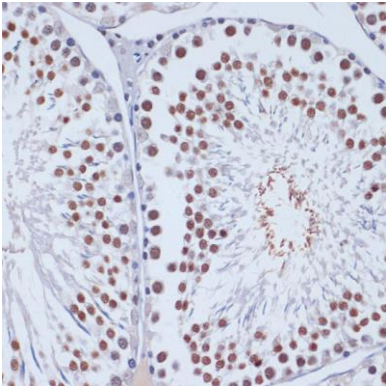
Shipped at 4°C. Upon receipt, store at -20°C. Avoid freeze / thaw cycles

### Alternative Names

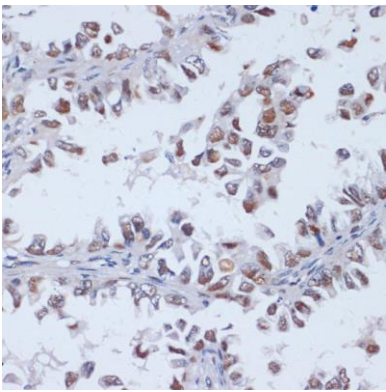
DNA Cytosine 5 Methyltransferase 3 Like Protein antibody, DNA Methyltransferase 3 Like Protein antibody, DNMT3L\_HUMAN antibody, Dnmt 3L antibody, Human cytosine 5 methyltransferase 3 like protein antibody, MGC1090 antibody

### Application

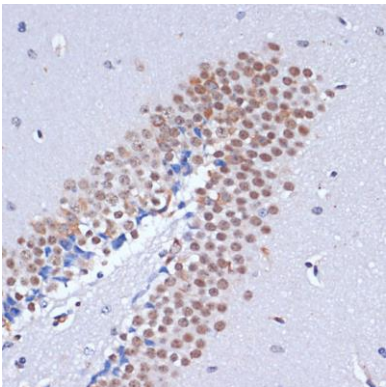
WB, IHC; Recommended dilution: WB 1:500 - 1:2000, IHC 1:50 - 1:200



Immunohistochemistry of paraffin-embedded rat testis using DNMT3L antibody at dilution of 1:100 (40x lens).



Immunohistochemistry of paraffin-embedded human lung cancer using DNMT3L antibody at dilution of 1:100 (40x lens).



Immunohistochemistry of paraffin-embedded mouse brain using DNMT3L antibody at dilution of 1:100 (40x lens).