

# Mouse Dnmt3L Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1062a

## Product Information

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<b>Application</b>	WB, E
<b>Primary Accession</b>	<a href="#">Q9CWR8</a>
<b>Other Accession</b>	<a href="#">Q1LZ50</a>
<b>Reactivity</b>	Human, Mouse
<b>Predicted</b>	Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB2393
<b>Calculated MW</b>	47993
<b>Antigen Region</b>	389-421

## Additional Information

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<b>Gene ID</b>	54427
<b>Other Names</b>	DNA (cytosine-5)-methyltransferase 3-like, Dnmt3l
<b>Target/Specificity</b>	This Mouse Dnmt3L antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 389-421 amino acids from mouse Dnmt3L.
<b>Dilution</b>	WB~~1:1000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Mouse Dnmt3L Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	Dnmt3l
<b>Function</b>	Catalytically inactive regulatory factor of DNA methyltransferases that can either promote or inhibit DNA methylation depending on the context (PubMed: <a href="#">11719692</a> , PubMed: <a href="#">15318244</a> , PubMed: <a href="#">15671018</a> ,

PubMed:[24074865](#)). Essential for the function of DNMT3A and DNMT3B: activates DNMT3A and DNMT3B by binding to their catalytic domain (PubMed:[15671018](#)). Acts by accelerating the binding of DNA and S-adenosyl-L-methionine (AdoMet) to the methyltransferases and dissociates from the complex after DNA binding to the methyltransferases (PubMed:[15671018](#)). Recognizes unmethylated histone H3 lysine 4 (H3K4me0) and induces de novo DNA methylation by recruitment or activation of DNMT3 (By similarity). Plays a key role in embryonic stem cells and germ cells (PubMed:[11719692](#), PubMed:[15318244](#), PubMed:[24074865](#)). In germ cells, required for the methylation of imprinted loci together with DNMT3A (PubMed:[11719692](#)). In male germ cells, specifically required to methylate retrotransposons, preventing their mobilization (PubMed:[15318244](#)). Plays a key role in embryonic stem cells (ESCs) by acting both as an positive and negative regulator of DNA methylation (PubMed:[24074865](#)). While it promotes DNA methylation of housekeeping genes together with DNMT3A and DNMT3B, it also acts as an inhibitor of DNA methylation at the promoter of bivalent genes (PubMed:[24074865](#)). Interacts with the EZH2 component of the PRC2/EED- EZH2 complex, preventing interaction of DNMT3A and DNMT3B with the PRC2/EED-EZH2 complex, leading to maintain low methylation levels at the promoters of bivalent genes (PubMed:[24074865](#)). Promotes differentiation of ESCs into primordial germ cells by inhibiting DNA methylation at the promoter of RHOX5, thereby activating its expression (PubMed:[24074865](#)).

#### Cellular Location

Nucleus.

#### Tissue Location

Expressed in testis, thymus, ovary, and heart (PubMed:11306809).

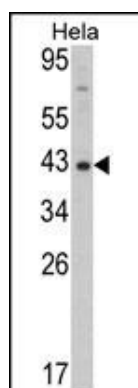
## Background

mDnmt3L (DNA methyltransferase 3L) does not appear to be catalytically active due to loss of the critical active site residues. It may function not directly as a DNA methyltransferase but rather as a regulator of methylation at imprinted loci. It is required specifically for the establishment of genomic imprints but is dispensable for their propagation. It is essential for the de novo methylation of single-copy DNA sequences. The protein is well-express in testis, thymus, ovary, and heart. mDnmt3L, which belongs to the 5-cytosine methyltransferase family, contains 1 ADD-type zinc finger.

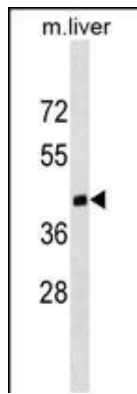
## References

- Okazaki, Y., et al., Nature 420(6915):563-573 (2002).  
 Bourc'his, D., et al., Science 294(5551):2536-2539 (2001).  
 Aapola, U., et al., Cytogenet. Cell Genet. 92 (1-2), 122-126 (2001).

## Images



Western blot analysis of Mouse Dnmt3L Antibody (Cat. #AP1062a) in HeLa cell line lysates (35ug/lane). Dnmt3L (arrow) was detected using the purified Pab.



Dnmt3l Antibody (C403) (Cat. #AP1062a) western blot analysis in mouse liver tissue lysates (35ug/lane). This demonstrates the Dnmt3l antibody detected the Dnmt3l protein (arrow).

## Citations

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- [Co-option of the PRDM14-CBFA2T complex from motor neurons to pluripotent cells during vertebrate evolution.](#)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.