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Mouse Dnmt3l Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21127a

Product Information

Application	WB, E
Primary Accession	Q9CWR8
Reactivity	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB50994
Calculated MW	47993

Additional Information

Gene ID	54427
Other Names	DNA (cytosine-5)-methyltransferase 3-like, Dnmt3l
Target/Specificity	This Mouse Dnmt3l antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 258-290 amino acids from the Central region of mouse Dnmt3l.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	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.
Precautions	Mouse Dnmt3l Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Dnmt3l
Function	Catalytically inactive regulatory factor of DNA methyltransferases that can either promote or inhibit DNA methylation depending on the context (PubMed:11719692, PubMed:15318244, PubMed:15671018, 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).

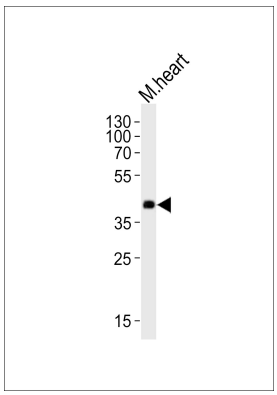
Background

Catalytically inactive regulatory factor of DNA methyltransferases. It is essential for the function of DNMT3A and DNMT3B. Activates DNMT3A and DNMT3B by binding to their catalytic domain. Accelerates the binding of DNA and AdoMet to the methyltransferases and dissociates from the complex after DNA binding to the methyltransferases.

References

Aapola U.,et al.Cytogenet. Cell Genet. 92:122-126(2001).
Shaoping X.,et al.Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
Carninci P.,et al.Science 309:1559-1563(2005).
Bourc'his D.,et al.Science 294:2536-2539(2001).
Gowher H.,et al.J. Biol. Chem. 280:13341-13348(2005).

Images



Western blot analysis of lysate from mouse heart tissue lysate, using Dnmt3l Antibody (Center)(Cat. #AP21127a). AP21127a was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.

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