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Mouse Dnmt3L Antibody Blocking Peptide

Synthetic peptide
Catalog # BP1062a

Specification

Mouse Dnmt3L Antibody Blocking Peptide - Product Information

Primary Accession Q9CWR8

Mouse Dnmt3L Antibody Blocking Peptide - Additional Information

Gene ID 54427

Other Names
DNA (cytosine-5)-methyltransferase 3-like, Dnmt3l

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1062a was selected from the region of human Mouse Dnmt3L. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Dnmt3L Antibody Blocking Peptide - 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).

Mouse Dnmt3L Antibody Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Mouse Dnmt3L Antibody Blocking Peptide - Images

Mouse Dnmt3L Antibody Blocking Peptide - 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.

Mouse Dnmt3L Antibody Blocking Peptide - 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).