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DNMT3L Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP16566b

Specification

DNMT3L Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9UJW3

DNMT3L Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 29947

Other Names
DNA (cytosine-5)-methyltransferase 3-like, DNMT3L

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.

DNMT3L Antibody (C-term) 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 (By similarity). Essential for the function of DNMT3A and DNMT3B: activates DNMT3A and DNMT3B by binding to their catalytic domain (PubMed:17687327). 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:17687327). Recognizes unmethylated histone H3 lysine 4 (H3K4me0) and induces de novo DNA methylation by recruitment or activation of DNMT3 (PubMed:17687327). Plays a key role in embryonic stem cells and germ cells (By similarity). In germ cells, required for the methylation of imprinted loci together with DNMT3A (By similarity). In male germ cells, specifically required to methylate retrotransposons, preventing their mobilization (By similarity). Plays a key role in embryonic stem cells (ESCs) by acting both as an positive and negative regulator of DNA methylation (By similarity). 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 (By similarity). 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 (By similarity). Promotes differentiation of ESCs into primordial germ cells by inhibiting DNA methylation at the promoter of RHOX5, thereby activating its expression (By similarity).

Cellular Location
Nucleus.

Tissue Location
Expressed at low levels in several tissues including testis, ovary, and thymus.

DNMT3L Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

DNMT3L Antibody (C-term) Blocking Peptide - Images

DNMT3L Antibody (C-term) Blocking Peptide - Background

CpG methylation is an epigenetic modification that isimportant for embryonic development, imprinting, and X-chromosomeinactivation. Studies in mice have demonstrated that DNAmethylation is required for mammalian development. This geneencodes a nuclear protein with similarity to DNAmethyltransferases. This protein is not thought to function as aDNA methyltransferase as it does not contain the amino acidresidues necessary for methyltransferase activity. However, thisprotein does stimulate de novo methylation by DNA cytosinemethyltransferase 3 alpha and it is thought to be required for theestablishment of maternal genomic imprints. This protein alsomediates transcriptional repression through interaction withhistone deacetylase 1. Alternative splicing results in twotranscript variants. An additional splice variant has beendescribed but its biological validity has not been determined.

DNMT3L Antibody (C-term) Blocking Peptide - References

Holz-Schietinger, C., et al. J. Biol. Chem. 285(38):29091-29100(2010)Manderwad, G.P., et al. Arch. Pathol. Lab. Med. 134(8):1193-1196(2010)Kim, H., et al. Int. J. Oncol. 36(6):1563-1572(2010)Minami, K., et al. Clin. Cancer Res. 16(10):2751-2759(2010)Haggarty, P., et al. PLoS ONE 5 (6), E11329 (2010) :