Dnmt3b Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1035A

Specification

Dnmt3b Antibody - Product Information

Application WB, IHC-P, E
Primary Accession Q9UBC3
Reactivity Human
Host Rabbit
Clonality Polyclonal
Isotype Rabbit Ig
Antigen Region 389-417

Dnmt3b Antibody - Additional Information

Gene ID 1789

Other Names DNA (cytosine-5)-methyltransferase 3B, Dnmt3b, DNA methyltransferase HsallIB, DNA MTase HsallIB, MHsallIB, DNMT3B

Target/Specificity This Dnmt3b antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 389-417 amino acids from human Dnmt3b.

Dilution WB ~1:2000
IHC-P ~1:10~50

Format 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.

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 Dnmt3b Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Dnmt3b Antibody - Protein Information

Name DNMT3B

Function Required for genome-wide de novo
methylation and is essential for the establishment of DNA methylation patterns during development. DNA methylation is coordinated with methylation of histones. May preferentially methylates nucleosomal DNA within the nucleosome core region. May function as transcriptional co-repressor by associating with CBX4 and independently of DNA methylation. Seems to be involved in gene silencing (By similarity). In association with DNMT1 and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9. Isoforms 4 and 5 are probably not functional due to the deletion of two conserved methyltransferase motifs. Function as transcriptional corepressor by associating with ZHX1.

**Cellular Location**
Nucleus

**Tissue Location**
Ubiquitous; highly expressed in fetal liver, heart, kidney, placenta, and at lower levels in spleen, colon, brain, liver, small intestine, lung, peripheral blood mononuclear cells, and skeletal muscle. Isoform 1 is expressed in all tissues except brain, skeletal muscle and PBMC, 3 is ubiquitous, 4 is expressed in all tissues except brain, skeletal muscle, lung and prostate and 5 is detectable only in testis and at very low level in brain and prostate.

**Dnmt3b Antibody - Protocols**
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytometry
- Cell Culture

**Dnmt3b Antibody - Citations**
- 5-Aza-2'-deoxycytidine induces human Tenon's capsule fibroblasts differentiation and fibrosis by up-regulating TGF-β type I receptor.
- T cell receptor (TCR) and transforming growth factor β (TGF-β) signaling converge on DNA (cytosine-5)-methyltransferase to control forkhead box protein 3 (foxp3) locus methylation and inducible regulatory T cell differentiation.
- OxLDL up-regulates microRNA-29b, leading to epigenetic modifications of MMP-2/MMP-9 genes: a novel mechanism for cardiovascular diseases.
- Systems-level dynamic analyses of fate change in murine embryonic stem cells.
- DNA methyltransferase expression in the human endometrium: down-regulation by progesterone and estrogen.
- MicroRNA-29 family reverts aberrant methylation in lung cancer by targeting DNA methyltransferases 3A and 3B.
- Role of epigenetic effectors in maintenance of the long-term persistent bystander effect in spleen in vivo.

**Dnmt3b Antibody - Background**
CpG methylation is an epigenetic modification that is important for embryonic development, imprinting, and X-chromosome inactivation. Studies in mice have demonstrated that DNA methylation is required for mammalian development. Dnmt3b is a DNA methyltransferase which is thought to function in de novo methylation, rather than maintenance methylation. The protein localizes primarily to the nucleus and its expression is developmentally regulated. Mutations in this gene cause the immunodeficiency-centromeric instability-facial anomalies (ICF) syndrome.

**Dnmt3b Antibody - References**
- Aberrant epigenetic modifications in hepatocarcinogenesis induced by hepatitis B virus X protein.
- Effect of long-term tamoxifen exposure on genotoxic and epigenetic changes in rat liver: implications for tamoxifen-induced hepatocarcinogenesis.
- Irradiation induces DNA damage and modulates epigenetic effectors in distant bystander tissue in vivo.
- Fractionated low-dose radiation exposure leads to accumulation of DNA damage and profound alterations in DNA and histone methylation in the murine thymus.
- Epigenetic reactivation of tumor suppressor genes by a novel small-molecule inhibitor of human DNA methyltransferases.