SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

Rabbit Anti-Dnmt3b antibody

SL0301R

Product Name	Dnmt3b
Chinese Name	DNA 甲基转移酶-3β 抗体
Alias	Cytosine 5methyltransferase 3B; DNA (cytosine 5) methyltransferase 3 beta; DNA; DNA methyltransferase HsaIIIB; DNA MTase HsaIIIB; Dnmt3b; Dnmt3 Beta; EC 2.1.1.37; ICF; M.HsaIIIB; MGC124407; RP23-89H14.3; DNM3B_HUMAN.
Research Area	Tumour Cell biology Signal transduction Epigenetics
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, (predicted: Rat,)
Applications	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	94kDa
Cellular localization	The nucleus
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Dnmt3 Beta: 1-80/853
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
PubMed	PubMed

Product Detail

Methylation of DNA at cytosine residues plays an important role in regulation of gene expression, genomic imprinting and is essential for mammalian development. Hypermethylation of CpG islands in tumor suppressor genes or hypomethylation of bulk genomic DNA may be linked with development of cancer. To date, 3 families of mammalian DNA methyltransferase genes have been identified which include Dnmt1, Dnmt2 and Dnmt3. Dnmt1 is constitutively expressed in proliferating cells and inactivation of this gene causes global demethylation of genomic DNA and embryonic lethality. Dnmt2 is expressed at low levels in adult tissues and its inactivation does not affect DNA methylation or maintenance of methylation. The Dnmt3 family members, Dnmt3a and Dnmt3b, are strongly expressed in ES cells but their expression is down regulated in differentiating ES cells and is low in adult somatic tissue. Recently, it has been shown that naturally occurring mutations of Dnmt3b gene occurs in patients with a rare autosomal recessive disorder, termed ICF (immunodeficiency, centromeric instability, and facial anomalies) syndrome.

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.

Subunit:
Interacts with BAZ2A/TIP5, SUV39H1 and CBX4. Interacts with DNMT1 and DNMT3A, SETDB1, UBL1, UBE2I9 and ZHX1. Interacts with the PRC2/EED-EZH2 complex.

Subcellular Location:
Nucleus.

Tissue Specificity:
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.

Post-translational modifications:

Sumoylated.

DISEASE:
Defects in DNMT3B are a cause of immunodeficiency-centromeric instability-facial anomalies syndrome type 1 (ICF1) [MIM:242860]. A rare disorder characterized by a variable immunodeficiency, facial anomalies, and branching of chromosomes 1, 9, and 16. Other variable symptoms include growth retardation, failure to thrive, and psychomotor retardation. Laboratory studies show limited hypomethylation of DNA in a small fraction of the genome in some, but not all, patients.

Similarity:
Belongs to the C5-methyltransferase family.
Contains 1 ADD domain.
Contains 1 GATA-type zinc finger.
Contains 1 PHD-type zinc finger.
Contains 1 PWWP domain.

SWISS:
Q9UBC3

Gene ID:
1789

Database links:

Entrez Gene: 1789 Human

Entrez Gene: 13436 Mouse

Entrez Gene: 444985 Rat

Omim: 602900 Human

SwissProt: Q9UBC3 Human

SwissProt: O88509 Mouse

Unigene: 643024 Human

Unigene: 713611 Human

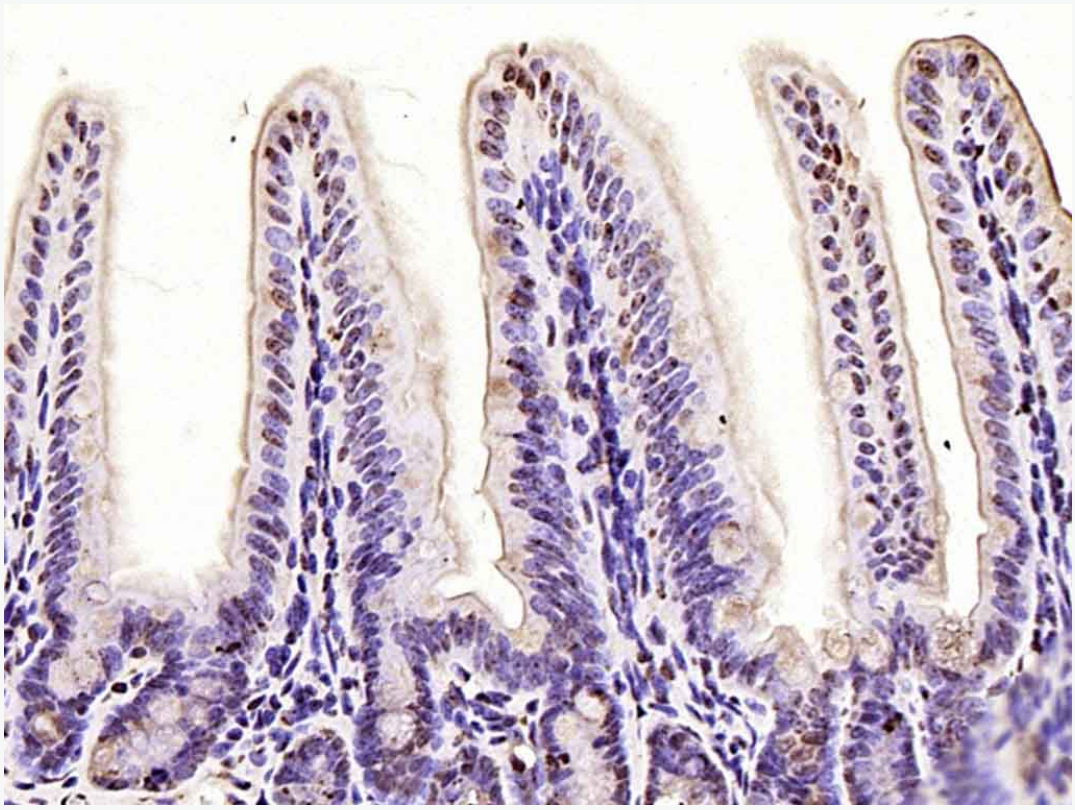
Unigene: 89772 Mouse

Unigene: 117353 Rat

Tumour 组织存在 DNA 甲基化紊乱，包括与细胞增殖周期密切相关的癌基因低

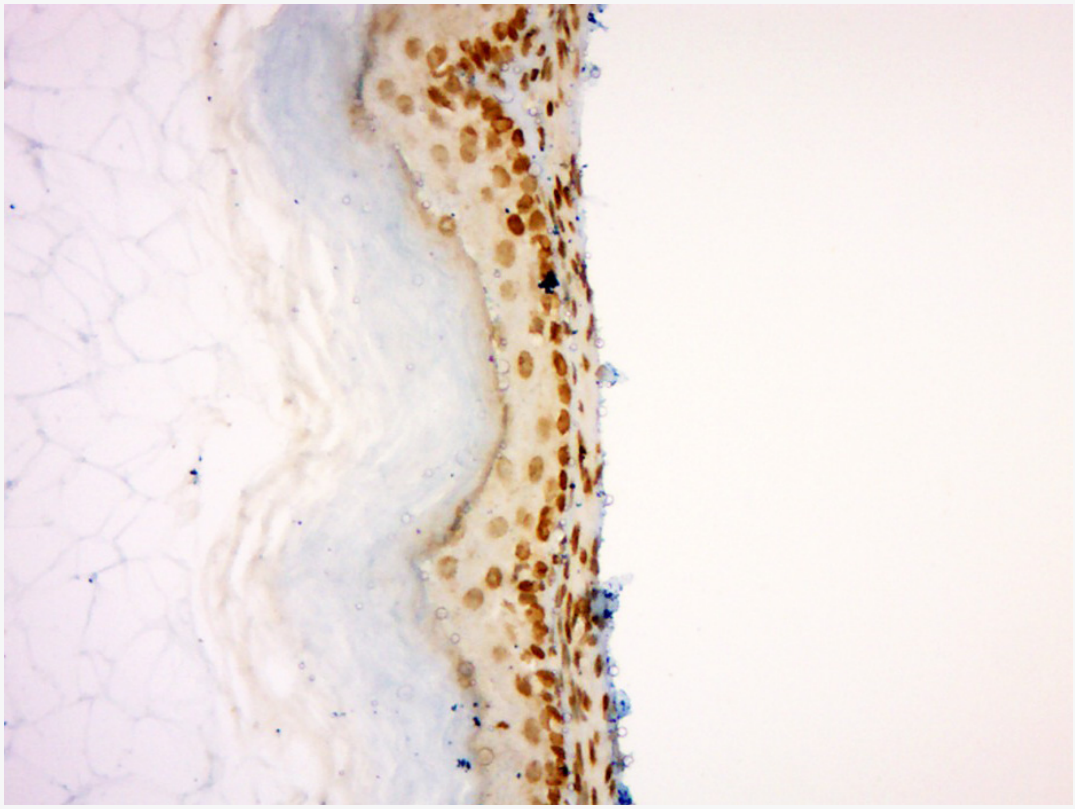
甲基化和抑癌基因高甲基化 DNA 甲基转移酶(Dnmt)参与甲基化的形成(主要是 Dnmt3a 和 Dnmt3b)和维持（主要是 Dnmt1)。

Product Picture



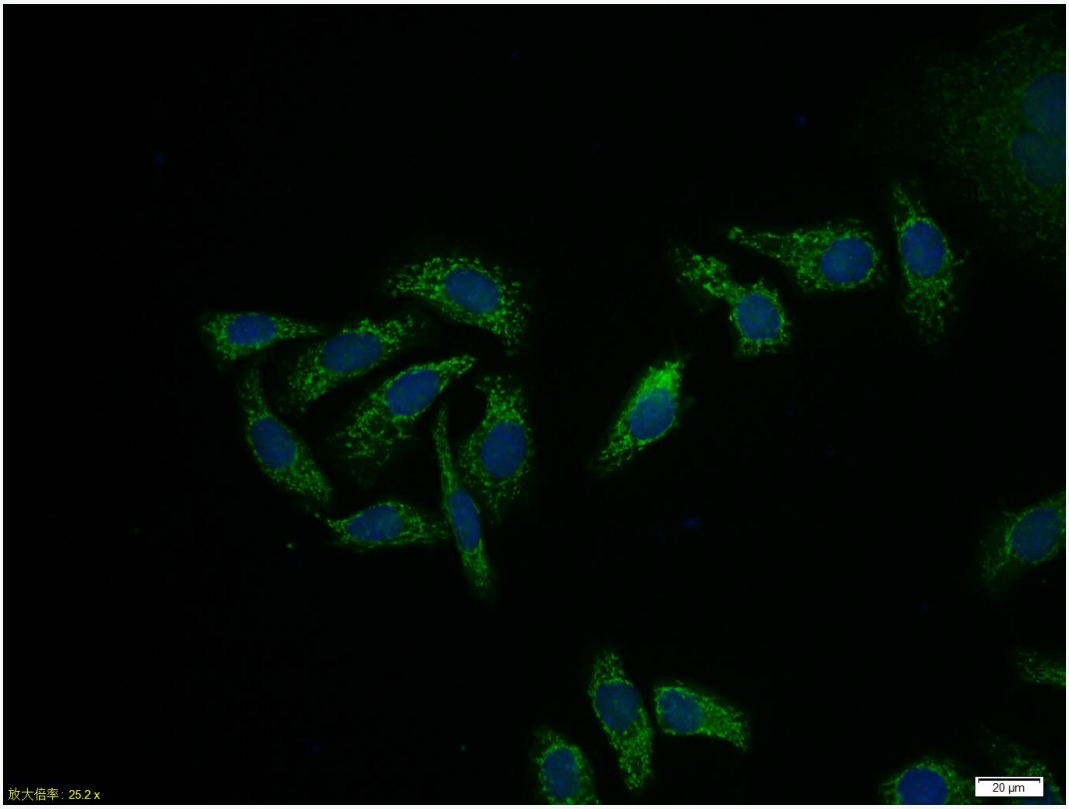
Paraformaldehyde-fixed, paraffin embedded (Mouse small intestine); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Dnmt3b) Polyclonal Antibody, Unconjugated (SL0301R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

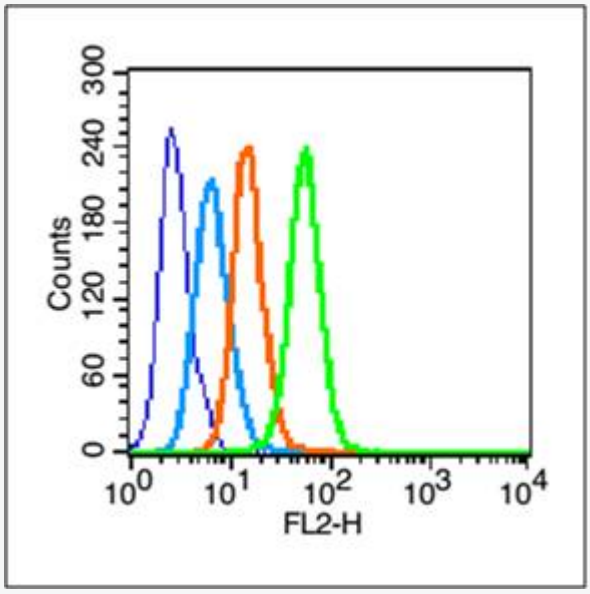


Paraformaldehyde-fixed, paraffin embedded (Mouse stomach); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Dnmt3b) Polyclonal Antibody, Unconjugated (SL0301R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com



HepG2 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (Dnmt3b) polyclonal Antibody, Unconjugated (SL0301R) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.



Blank control (blue line): HepG2 (blue).

Primary Antibody (green line): Rabbit Anti-Dnmt3b antibody (SL0301R)

Dilution: 1μg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-PE

Dilution: 1μg /test.

Protocol

The cells were fixed with 70% methanol (Overnight at 4℃) and then permeabilized with 90% ice-cold methanol for 20 min at -20℃. Cells stained with Primary Antibody for 30 min at room temperature. The cells were then incubated in 1 X PBS/2%BSA/10% goat serum to block non-specific protein-protein interactions followed by the antibody for 15 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000

events was performed.