

Rabbit Anti-Dnmt3a antibody

SL0497R

Product Name Dnmt3a

Chinese Name DNA 甲基转移酶-3 α 抗体

Alias DNA (cytosine 5) methyltransferase 3 alpha; DNA (cytosine 5) methyltransferase 3A; DNA cytosine methyltransferase 3A2; DNA methyltransferase 3a; DNA methyltransferase HsaIII A; DNA MTase HsaI; DNA MTase HsaIII A; DNMT 3a; DNMT; DNMT3A2; M HsaIII A; M.HsaIII A; MCMT; Methyl CpG binding domain protein 3a.

Research Area Tumour Cell biology Signal transduction Apoptosis Epigenetics

Immunogen Species Rabbit

Clonality Polyclonal

React Species Human Mouse Rat(predicted:Cow)

Applications WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug/Test
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 100kDa

Cellular localization The nucleus cytoplasmic

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human Dnmt3a: 26-100/912

Lsotype IgG

Purification affinity purified by Protein A

Buffer Solution Human,Mouse,Rat(predicted:Cow)1M TBS(pH7.4) with 1% BSA,
Human,Mouse,Rat(predicted:Cow)3% Proclin300 and 50% Glycerol.

Storage Shipped at 4°C. 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](#)

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. This gene encodes a DNA methyltransferase that is thought to function in de novo methylation, rather than maintenance methylation. The protein localizes to the cytoplasm and nucleus and its expression is developmentally regulated. [provided by RefSeq, Mar 2016]

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. It modifies DNA in a non-processive manner and also methylates non-CpG sites. May preferentially methylate DNA linker between 2 nucleosomal cores and is inhibited by histone H1. Plays a role in paternal and maternal imprinting. Required for methylation of most imprinted loci in germ cells. Acts as a transcriptional corepressor for ZNF238. Can actively repress transcription through the recruitment of HDAC activity.

Subunit:

Heterotetramer composed of 1 DNMT3A homodimer and 2 DNMT3L subunits (DNMT3L-DNMT3A-DNMT3A-DNMT3L). Interacts with UBC9, PIAS1 and PIAS2. Binds the ZNF238 transcriptional repressor. Interacts with SETDB1. Associates with HDAC1 through its ADD domain. Interacts with DNMT1 and DNMT3B. Interacts with the PRC2/EED-EZH2 complex. Interacts with MPHOSPH8. Interacts with histone H3 that is not methylated at 'Lys-4' (H3K4).

Product Detail

Subcellular Location:

Nucleus. Cytoplasm. Note=Accumulates in the major satellite repeats at pericentric heterochromatin.

Tissue Specificity:

Highly expressed in fetal tissues, skeletal muscle, heart, peripheral blood mononuclear cells, kidney, and at lower levels in placenta, brain, liver, colon, spleen, small intestine and lung.

Post-translational modifications:

Sumoylated; sumoylation disrupts the ability to interact with histone deacetylases (HDAC1 and HDAC2) and repress transcription.

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:
Q9Y6K1

Gene ID:
1788

Database links:

[Entrez Gene: 1788](#) Human

[Entrez Gene: 13435](#) Mouse

[Omim: 602769](#) Human

[SwissProt: Q9Y6K1](#) Human

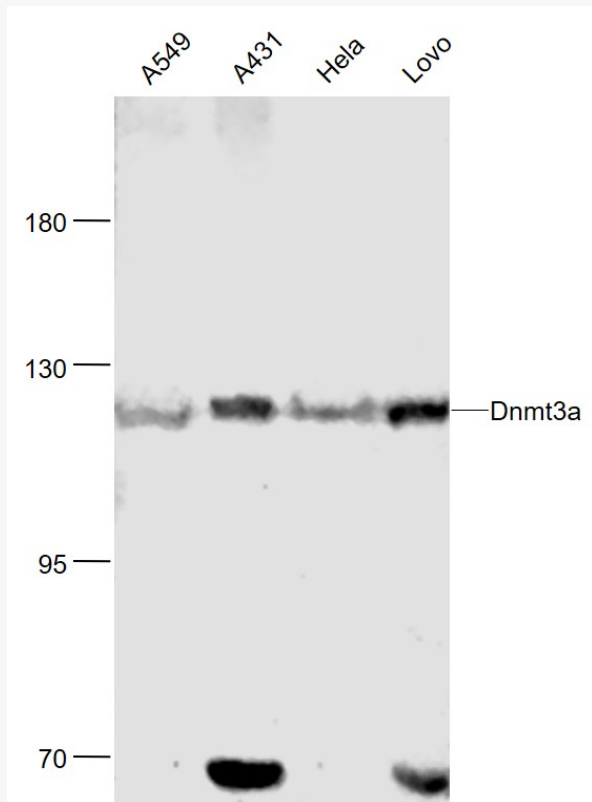
[SwissProt: O88508](#) Mouse

[Unigene: 515840](#) Human

[Unigene: 5001](#) Mouse

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**



Sample:

A549(Human) Cell Lysate at 30 ug

A431(Human) Cell Lysate at 30 ug

HeLa(Human) Cell Lysate at 30 ug

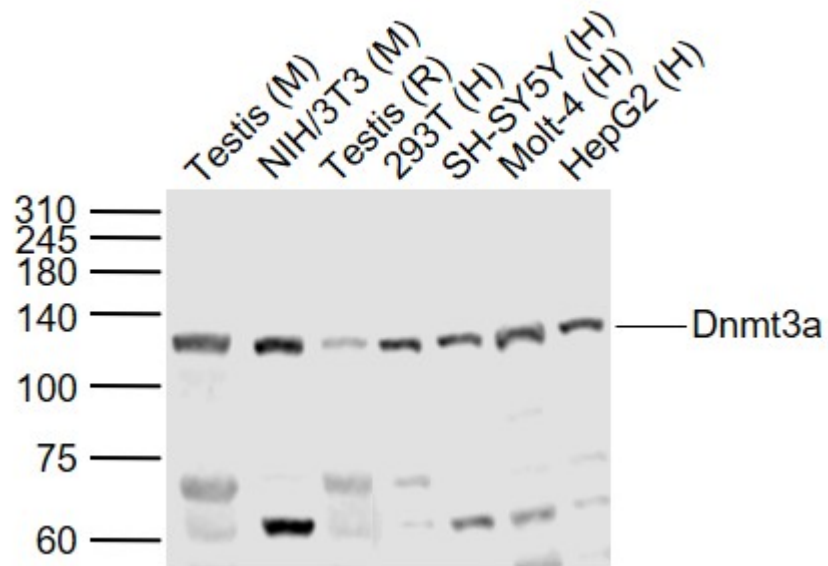
Lovo(Human) Cell Lysate at 30 ug

Primary: Anti-Dnmt3a (SL0497R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 130 kD

Observed band size: 120 kD



Sample:

Lane 1: Testis (Mouse) Lysate at 40 ug

Lane 2: NIH/3T3 (Mouse) Cell Lysate at 30 ug

Lane 3: Testis (Rat) Lysate at 40 ug

Lane 4: 293T (Human) Cell Lysate at 30 ug

Lane 5: SH-SY5Y (Human) Cell Lysate at 30 ug

Lane 6: Molt-4 (Human) Cell Lysate at 30 ug

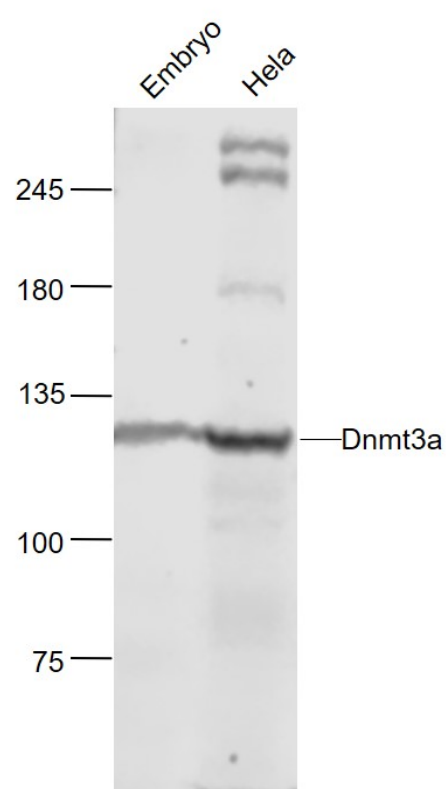
Lane 7: HepG2 (Human) Cell Lysate at 30 ug

Primary: Anti-Dnmt3a (SL0497R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 120 kD

Observed band size: 120 kD



Sample:

Embryo(Mouse) Lysate at 40 ug

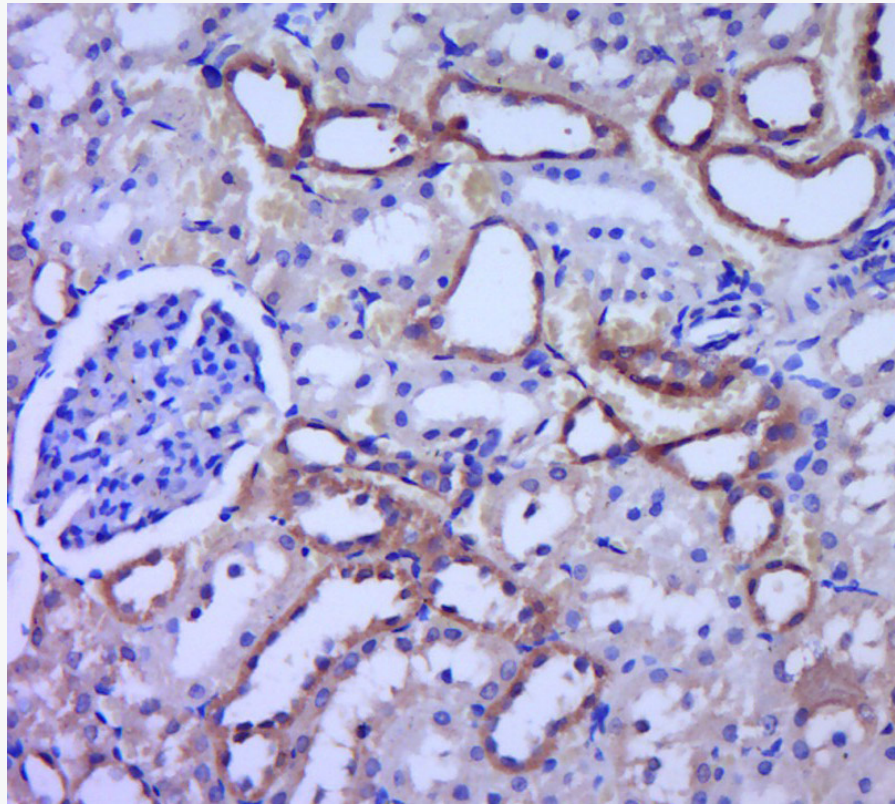
HeLa(Human) Cell Lysate at 30 ug

Primary: Anti-Dnmt3a (SL0497R) at 1/1000 dilution

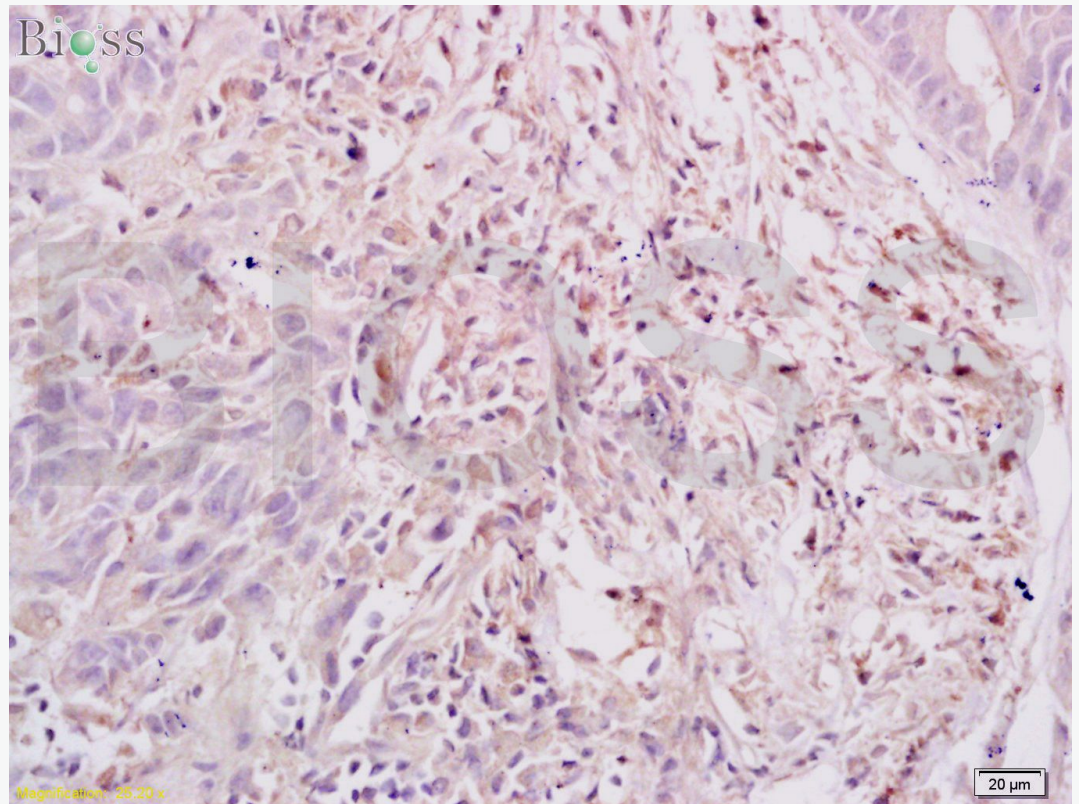
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 130 kD

Observed band size: 120 kD

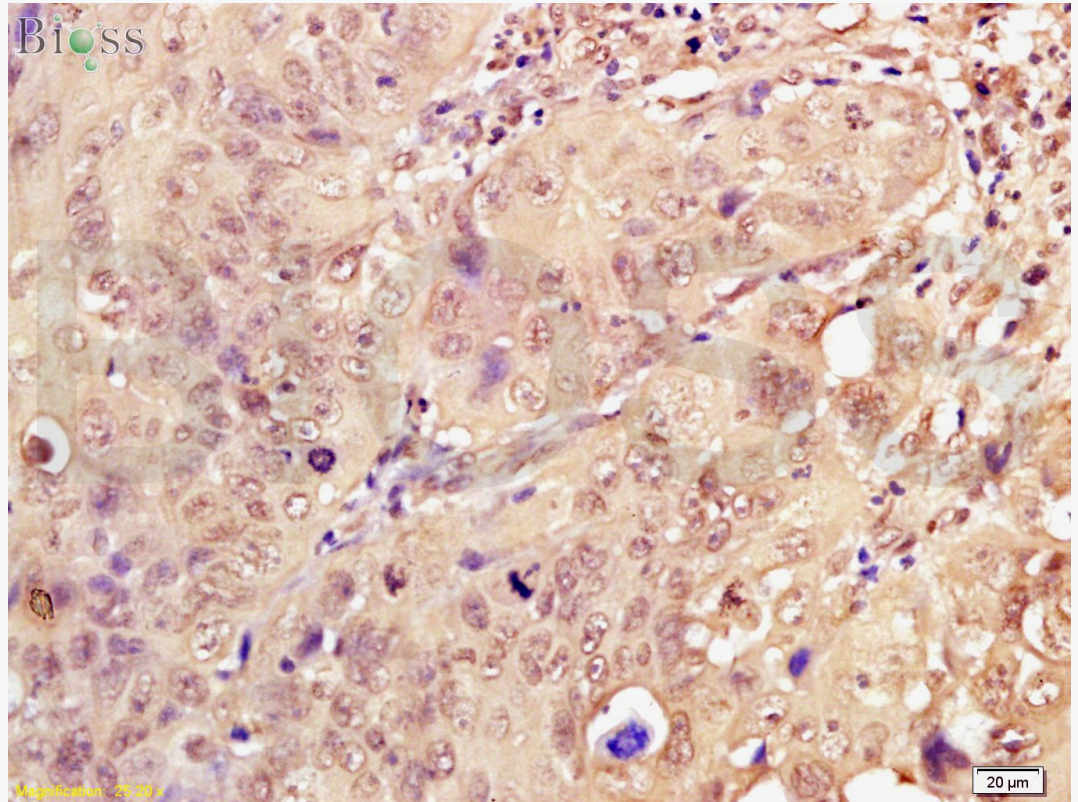


Paraformaldehyde-fixed, paraffin embedded (rat kidney tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Dnmt3a) Polyclonal Antibody, Unconjugated (SL0497R) at 1:400 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.



Tissue/cell: human gastric carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (Human,Mouse,Rat(predicted:Cow)1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min; Incubation: Anti-Dnmt3a Polyclonal Antibody, Unconjugated(SL0497R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

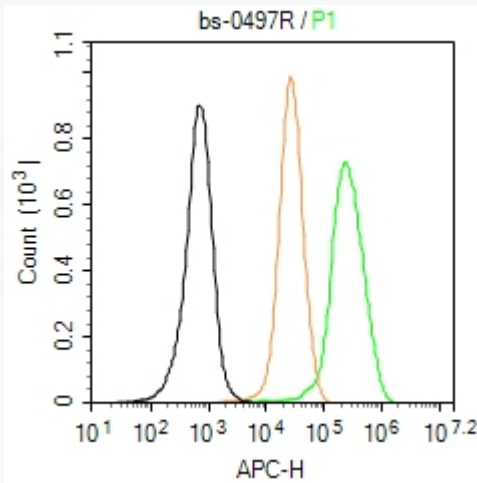


Tissue/cell: human breast carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (Human,Mouse,Rat(predicted:Cow)1M, pH 6.0),

Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-Dnmt3a Polyclonal Antibody, Unconjugated(SL0497R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control (Black line): U87MG (Black).

Primary Antibody (green line): Rabbit Anti-Dnmt3a antibody (SL0497R)

Dilution: $1\mu\text{g} / 10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-AF647

Dilution: $1\mu\text{g} / \text{test}$.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature.

Acquisition of 20,000 events was performed.