

DNMT3a Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10180**Specification**

DNMT3a Antibody - Product Information

Application	WB
Primary Accession	O9Y6K1
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	101858

DNMT3a Antibody - Additional Information**Gene ID** 1788

Positive Control	Western blot: Jurket cell lysate
Application & Usage	Western blot: 1:200
Other Names	
DNA Methyltransferase 3a, DNMT3A	

Target/Specificity
DNMT3a**Antibody Form**
Liquid**Appearance**
Colorless liquid**Formulation**
100 µg (0.5 mg/ml) of antibody in PBS, 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol, pH 7.2**Handling**
The antibody solution should be gently mixed before use.**Reconstitution & Storage**
-20 °C**Background Descriptions****Precautions**
DNMT3a Antibody is for research use only and not for use in diagnostic or therapeutic procedures.**DNMT3a Antibody - Protein Information**

Name DNMT3A**Function**

Required for genome-wide de novo methylation and is essential for the establishment of DNA methylation patterns during development (PubMed:12138111, PubMed:16357870, PubMed:30478443). DNA methylation is coordinated with methylation of histones (PubMed:12138111, PubMed:16357870, PubMed:30478443). It modifies DNA in a non-processive manner and also methylates non-CpG sites (PubMed:12138111, PubMed:16357870, PubMed:30478443). May preferentially methylate DNA linker between 2 nucleosomal cores and is inhibited by histone H1 (By similarity). Plays a role in paternal and maternal imprinting (By similarity). Required for methylation of most imprinted loci in germ cells (By similarity). Acts as a transcriptional corepressor for ZBTB18 (By similarity). Recruited to trimethylated 'Lys-36' of histone H3 (H3K36me3) sites (By similarity). Can actively repress transcription through the recruitment of HDAC activity (By similarity). Also has weak auto-methylation activity on Cys-710 in absence of DNA (By similarity).

Cellular Location

Nucleus. Chromosome Cytoplasm. Note=Accumulates in the major satellite repeats at pericentric heterochromatin {ECO:0000250|UniProtKB:O88508}

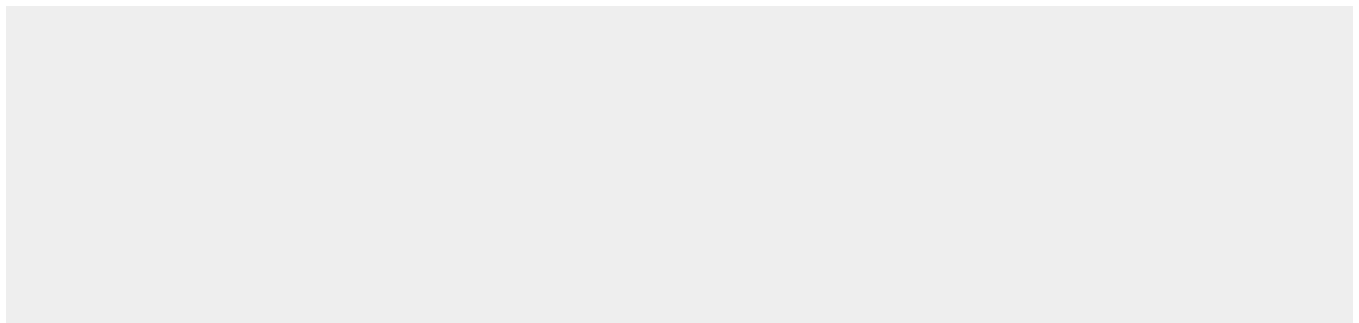
Tissue Location

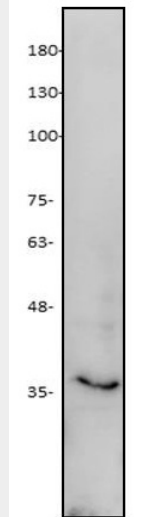
Highly expressed in fetal tissues, skeletal muscle, heart, peripheral blood mononuclear cells, kidney, and at lower levels in placenta, brain, liver, colon, spleen, small intestine and lung

DNMT3a 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](#)

DNMT3a Antibody - Images



Western blot of Jurkat cell lysate with DNMT3a antibody

DNMT3a Antibody - Background

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, three 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 embryonic stem (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 occur in patients with a rare autosomal recessive disorder, termed ICF (immunodeficiency, centromeric instability, and facial anomalies) syndrome.