

# Dnmt3A/Dnmt3A2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP1023b

#### **Product Information**

Application WB, E Primary Accession Q9Y6K1

Other Accession <u>Q1LZ53</u>, <u>088508</u>

Reactivity
Predicted
Mouse, Rat
Host
Rabbit
Clonality
Polyclonal
Isotype
Rabbit IgG
Calculated MW
Antigen Region
Human
Mouse, Rat
Rabbit
Rabbit
101858

## **Additional Information**

**Gene ID** 1788

**Other Names** DNA (cytosine-5)-methyltransferase 3A, Dnmt3a, DNA methyltransferase

HsaIIIA, DNA MTase HsaIIIA, MHsaIIIA, DNMT3A

**Target/Specificity**This Dnmt3A/Dnmt3A2 antibody is generated from rabbits immunized with a

KLH conjugated synthetic peptide between 723-752 amino acids from the

C-terminal region of human Dnmt3A/Dnmt3A2.

**Dilution** WB~~1:1000 E~~Use at an assay dependent concentration.

**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** Dnmt3A/Dnmt3A2 Antibody (C-term) is for research use only and not for use

in diagnostic or therapeutic procedures.

#### **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:<u>12138111</u>, PubMed:<u>16357870</u>, PubMed:<u>30478443</u>). 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}

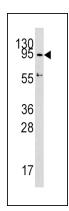
**Tissue Location** 

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

## **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. DNMT3A is 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.

# **Images**



Western blot analysis of DNMT3A Antibody (C-term) (Cat.# AP1023b) in HepG2 cell line lysates (35ug/lane). DNMT3A (arrow) was detected using the purified Pab.

## **Citations**

- Imprinted and DNA methyltransferase gene expression in the endometrium during the pre- and peri-implantation period in cattle.
- Bovine DNA methylation imprints are established in an oocyte size-specific manner, which are coordinated with the expression of the DNMT3 family proteins.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.