

Rabbit DNMT3A Polyclonal Antibody | anti-DNMT3A antibody

DNMT3A Antibody

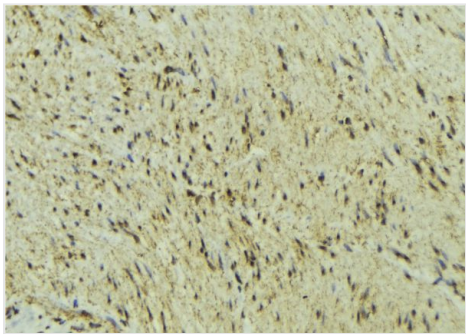
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326557	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

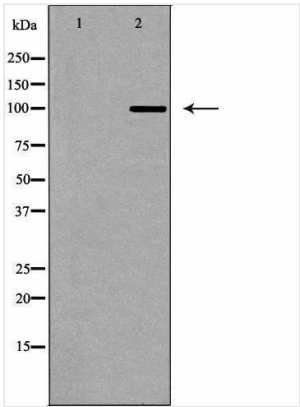
DNMT3A; Polyclonal Antibody; DNMT3A Antibody; DNA (cytosine 5) methyltransferase 3 alpha; DNA (cytosine 5) methyltransferase 3A; DNA (cytosine-5)-methyltransferase 3A; DNA cytosine methyltransferase 3A2; DNA methyltransferase 3 alpha; DNA methyltransferase 3a; DNA methyltransferase HsaIIIA; DNA MTase HsaIIIA; DNM3A_HUMAN; DNMT 3a; DNMT; Dnmt3a; DNMT3A2; M.HsaIIIA; MCMT; OTTHUMP00000201149; TBRS; anti-DNMT3A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	DNMT3A antibody detects endogenous levels of total DNMT3A
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	166
Applicable Applications for anti-DNMT3A antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human DNMT3A
Subcellular Location	Nucleus. Cytoplasm. 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.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA326557 at 1/100 staining Mouse muscle tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)
Western blot analysis of Hela whole cell lysates, using DNMT3A Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-DNMT3A antibody

Description: Methylation of DNA at cytosine residues in mammalian cells is a heritable, epigenetic modification that is critical for proper regulation of gene expression, genomic imprinting and development (1, 2). Three families of mammalian DNA methyltransferases have been identified: DNMT1, DNMT2 and DNMT3 (1, 2). DNMT1 is constitutively expressed in proliferating cells and functions as a maintenance methyltransferase, transferring proper methylation patterns to newly synthesized DNA during replication. DNMT3A and DNMT3B are strongly expressed in embryonic stem cells with reduced expression in adult somatic tissues. DNMT3A and DNMT3B function as de novo methyltransferases that methylate previously unmethylated regions of DNA. DNMT2 is expressed at low levels in adult somatic tissues and its inactivation affects neither de novo nor maintenance DNA methylation. DNMT1, DNMT3A and DNMT3B together form a protein complex that interacts with histone deacetylases (HDAC1, HDAC2, Sin3A), transcriptional repressor proteins (RB, TAZ-1) and heterochromatin proteins (HP1, SUV39H1), to maintain proper levels of DNA methylation and facilitate gene silencing (3-8). Improper DNA methylation contributes to diseased states such as cancer (1, 2). Hypermethylation of promoter CpG islands within tumor suppressor genes correlates with gene silencing and the development of cancer. In addition, hypomethylation of bulk genomic DNA correlates with and may contribute to the onset of cancer. DNMT1, DNMT3A and DNMT3B are over-expressed in many cancers, including acute and chronic myelogenous leukemias, in addition to colon, breast and stomach carcinomas (9-12).

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 ZBTB18. Recruited to trimethylated 'Lys-36' of histone H3 (H3K36me3) sites. Can actively repress transcription through the recruitment of HDAC activity.

Subunit Structure: Heterotetramer composed of 1 DNMT3A homodimer and 2 DNMT3L subunits (DNMT3L-DNMT3A-DNMT3A-DNMT3L). Interacts with UBC9, PIAS1 and PIAS2 (By similarity). Binds the ZBTB18 transcriptional repressor. Interacts with SETDB1. Associates with HDAC1 through its ADD domain. Interacts with UHRF1 (By similarity). 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).

Post-translational Modifications: Sumoylated; sumoylation disrupts the ability to interact with histone deacetylases (HDAC1 and HDAC2) and repress transcription.

Similarity: The PWWP domain is essential for targeting to pericentric heterochromatin. It specifically recognizes and binds trimethylated 'Lys-36' of histone H3 (H3K36me3) (By similarity). Belongs to the class I-like SAM-binding methyltransferase superfamily. C5-methyltransferase family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	1003701583
NCBI GeneID	1788
NCBI Accession #	NP_001307821.1

NCBI GenBank Nucleotide #	NM_001320892.1
UniProt Accession #	Q9Y6K1 ; Q86TE8 ; Q86XF5 ; Q8IZV0 ; Q8WXU9 ; E9PEB8
Molecular Weight	Observed: 102 kDa Predicted: 102 kDa
NCBI Official Full Name	DNA (cytosine-5)-methyltransferase 3A isoform c
NCBI Official Synonym Full Names	DNA methyltransferase 3 alpha
NCBI Official Symbol	DNMT3A
NCBI Official Synonym Symbols	TBR5; DNMT3A2; M.HsaIIIA
NCBI Protein Information	DNA (cytosine-5)-methyltransferase 3A
UniProt Protein Name	DNA (cytosine-5)-methyltransferase 3A
UniProt Gene Name	DNMT3A
UniProt Synonym Gene Names	Dnmt3a; DNA MTase HsaIIIA; M.HsaIIIA

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/dnmt3a-antibody-immunohistochemistry-western-blot-elisa/326557>