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DNMT3A Antibody (CenterR478)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14999c

Product Information

Application	WB, E
Primary Accession	Q9Y6K1
Other Accession	Q1LZ53, O88508, Q4W5Z4, NP_783328.1, NP_072046.2
Reactivity	Human
Predicted	Chicken, Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35262
Calculated MW	101858
Antigen Region	457-486

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 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 457-486 amino acids from the Central region of human DNMT3A.
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 purified through a protein A column, followed by peptide affinity purification.
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 Antibody (CenterR478) 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: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

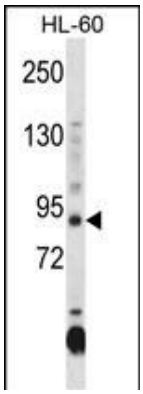
Background

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. 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. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq].

References

Holz-Schietinger, C., et al. J. Biol. Chem. 285(38):29091-29100(2010)
Kelemen, L.E., et al. Cancer Epidemiol. Biomarkers Prev. 19(7):1822-1830(2010)
Park, C.W., et al. J Cardiovasc Transl Res 3(3):290-295(2010)
Haggarty, P., et al. PLoS ONE 5 (6), E11329 (2010) :
Zhao, Z., et al. J. Biomed. Biotechnol. 2010, 737535 (2010) :

Images



DNMT3A Antibody (CenterR478) (Cat. #AP14999c) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the DNMT3A antibody detected the DNMT3A protein (arrow).

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