

DNMT3A Antibody (Center R478)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP14633c

Product Information

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|--------------------------|---|
| Application | WB, IHC-P, E |
| Primary Accession | Q9Y6K1 |
| Other Accession | NP_783328.1 , NP_715640.2 |
| Reactivity | Human |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | Rabbit IgG |
| Clone Names | RB35103 |
| Calculated MW | 101858 |
| Antigen Region | 457-486 |

Additional Information

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|---------------------------|--|
| 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 IHC-P~~1:100~500 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 (Center R478) is for research use only and not for use in diagnostic or therapeutic procedures. |

Protein Information

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|-----------------|---|
| 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

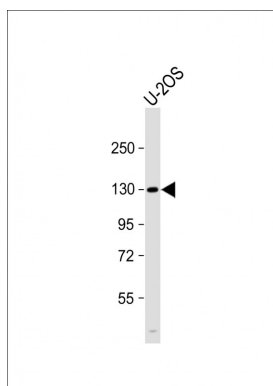
Background

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

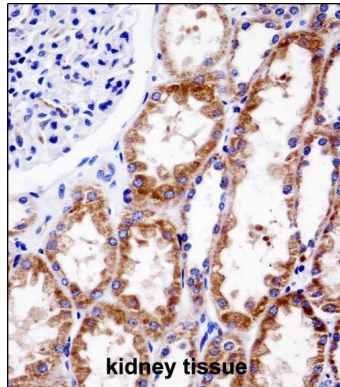
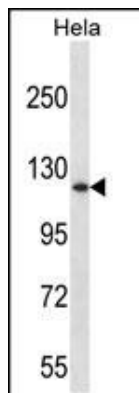
Holz-Schietinger, C., et al. J. Biol. Chem. 285(38):29091-29100(2010) Kelemen, L.E., et al. Cancer Epidemiol. Biomarkers Prev. 19(7):1822-1830(2010) Park, C.W., et al. J Cardiovasc Transl Res 3(3):290-295(2010) Haggarty, P., et al. PLoS ONE 5 (6), E11329 (2010) : Zhao, Z., et al. J. Biomed. Biotechnol.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

Images



Anti-DNMT3A Antibody (R478W Mutant) at 1:1000 dilution + U-2OS whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 102 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

DNMT3A Antibody (Center R478)(Cat. #AP14633c) western blot analysis in HeLa cell line lysates (35 µg/lane). This demonstrates the DNMT3A antibody detected the DNMT3A protein (arrow).



DNMT3A Antibody (Center R478W Mutant) (AP14633c) immunohistochemistry analysis in formalin fixed and paraffin embedded human kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of DNMT3A Antibody (Center R478W Mutant) for immunohistochemistry. Clinical relevance has not been evaluated.

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