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Mouse Monoclonal Antibody to DNMT3A

Purified Mouse Monoclonal Antibody
Catalog # AO2351a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q9Y6K1
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4G5F11
Isotype	Mouse IgG2a
Calculated MW	101858
Description	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.;
Immunogen	Purified recombinant fragment of human DNMT3A (AA: 46-180) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide
Application Note	ELISA: 1/10000; WB: 1/500 - 1/2000; IHC: 1/200 - 1/1000; FCM: 1/200 - 1/400

Additional Information

Gene ID	1788
Other Names	TBRS; DNMT3A2; M.HsaIIIA
Dilution	WB~~1:1000 IHC~~1:100~500 FC~~1:10~50 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Monoclonal Antibody to DNMT3A is for research use only and not for use in diagnostic or therapeutic procedures.

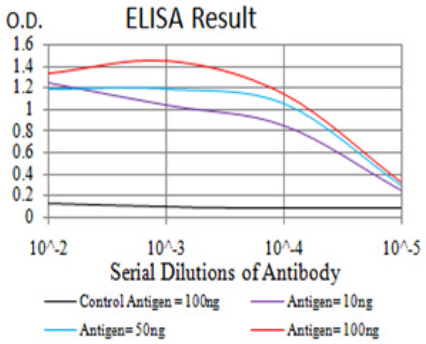
Protein Information

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

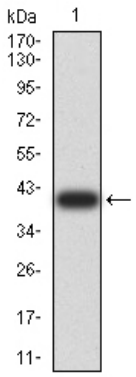
References

1.PLoS One. 2014 Jun 17;9(6):e93353. ; 2.Asian Pac J Cancer Prev. 2013;14(10):5713-8.;

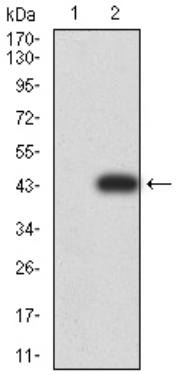
Images



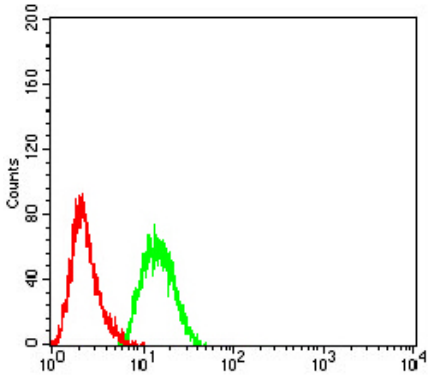
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



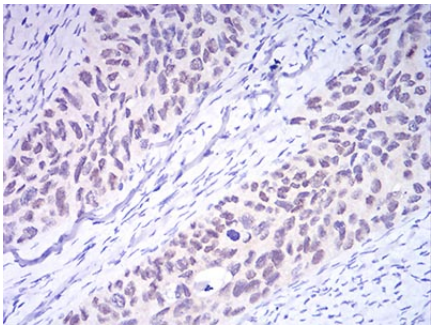
Western blot analysis using DNMT3A mAb against human DNMT3A (AA: 46-180) recombinant protein. (Expected MW is 40 kDa)



Western blot analysis using DNMT3A mAb against HEK293 (1) and DNMT3A (AA: 46-180)-hIgGFc transfected HEK293 (2) cell lysate.



Flow cytometric analysis of Hela cells using DNMT3A mouse mAb (green) and negative control (red).



Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using DNMT3A mouse mAb with DAB staining.

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