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Mouse Monoclonal Antibody to DNMT3A
Purified Mouse Monoclonal Antibody
Catalog # AO2351a

Specification

Mouse Monoclonal Antibody to DNMT3A - Product Information

Application	**E, WB, FC, IHC**
Primary Accession	Q9Y6K1
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG2a**
Calculated MW	**102kDa KDa**

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

Mouse Monoclonal Antibody to DNMT3A - Additional Information

Gene ID 1788

Other Names
TBRS; DNMT3A2; M.HsaIIIA

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.

Mouse Monoclonal Antibody to DNMT3A - 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

Mouse Monoclonal Antibody to DNMT3A - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Mouse Monoclonal Antibody to DNMT3A - Images

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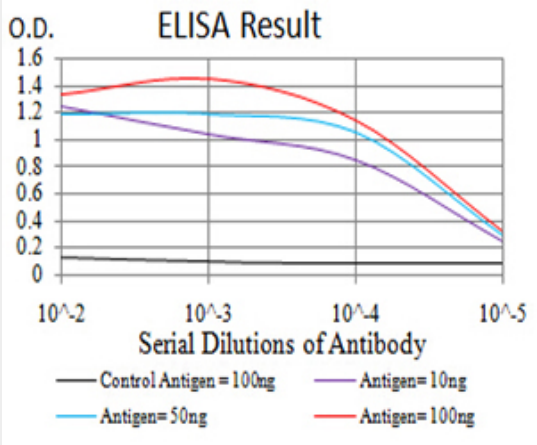
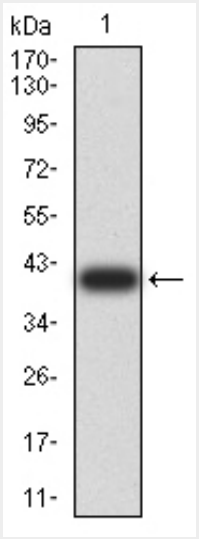
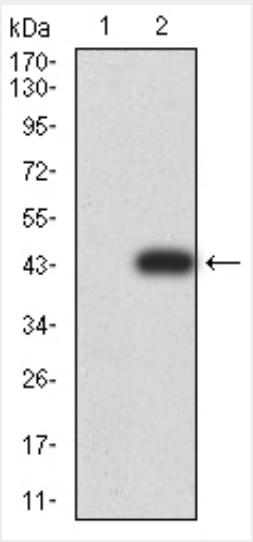


Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



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.

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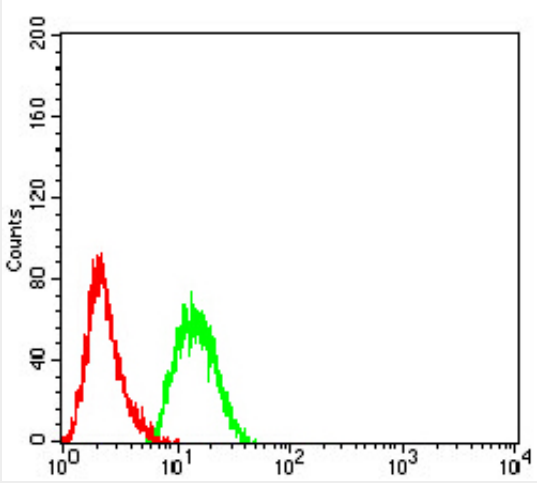
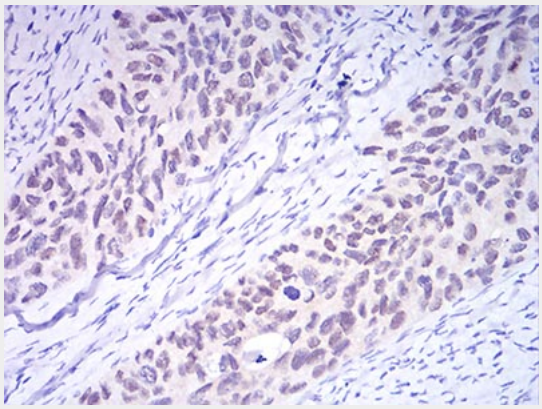


Flow cytometric analysis of Hela cells using DNMT3A mouse mAb (green) and negative control (red).



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

Mouse Monoclonal Antibody to DNMT3A - References

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