10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mouse Monoclonal Antibody to DNMT1

Purified Mouse Monoclonal Antibody
Catalog # AO2327a

Specification

Mouse Monoclonal Antibody to DNMT1 - Product Information

Application	**E, WB, IHC**
Primary Accession	P26358
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**
Calculated MW	**183.2kDa KDa**

Description
DNA (cytosine-5-)-methyltransferase 1 has a role in the establishment and regulation of tissue-specific patterns of methylated cytosine residues. Aberrant methylation patterns are associated with certain human tumors and developmental abnormalities. Two transcript variants encoding different isoforms have been found for this gene.;

Immunogen
Purified recombinant fragment of human DNMT1 (AA: 1317-1616) 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;

Mouse Monoclonal Antibody to DNMT1 - Additional Information

Gene ID 1786

Other Names
AIM; DNMT; MCMT; CXXC9; HSN1E; ADCADN

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 DNMT1 is for research use only and not for use in diagnostic or therapeutic procedures.

Mouse Monoclonal Antibody to DNMT1 - Protein Information

Name DNMT1

Synonyms AIM, CXXC9, DNMT

Function
Methylates CpG residues. Preferentially methylates hemimethylated DNA. Associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand, that is essential for epigenetic inheritance. Associates with chromatin during G2 and M phases to maintain DNA methylation independently of replication. It is responsible for maintaining methylation patterns established in development. DNA methylation is coordinated with methylation of histones. Mediates transcriptional repression by direct binding to HDAC2. In association with DNMT3B and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9. Probably forms a corepressor complex required for activated KRAS- mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) or other tumor-related genes in colorectal cancer (CRC) cells (PubMed:24623306). Also required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (PubMed:24623306). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing (PubMed:24623306). Promotes tumor growth (PubMed:24623306).

Cellular Location
Nucleus. Note=Localized to the perinucleolar region.

Tissue Location
Ubiquitous; highly expressed in fetal tissues, heart, kidney, placenta, peripheral blood mononuclear cells, and expressed at lower levels in spleen, lung, brain, small intestine, colon, liver, and skeletal muscle. Isoform 2 is less expressed than isoform 1.

Mouse Monoclonal Antibody to DNMT1 - 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 DNMT1 - Images

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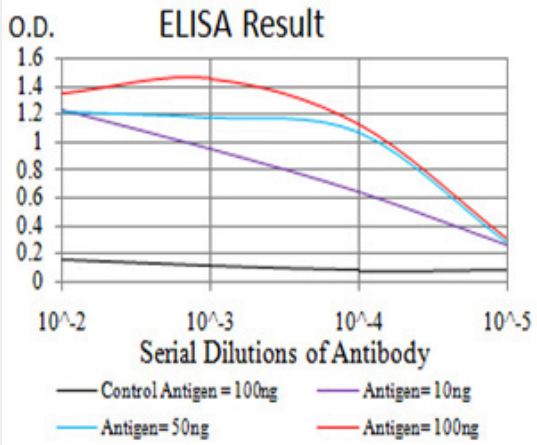
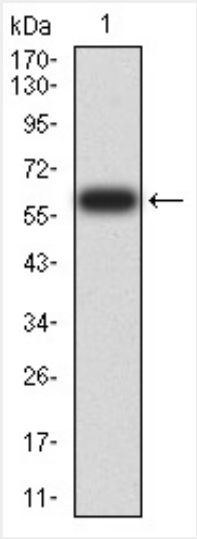
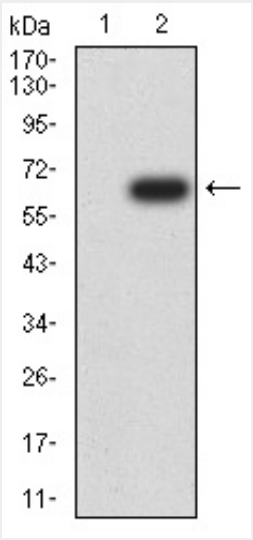


Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



Western blot analysis using DNMT1 mAb against human DNMT1 (AA: 1317-1616) recombinant protein. (Expected MW is 59.3 kDa)



Western blot analysis using DNMT1 mAb against HEK293 (1) and DNMT1 (AA: 1317-1616)-hIgGFc transfected HEK293 (2) cell lysate.

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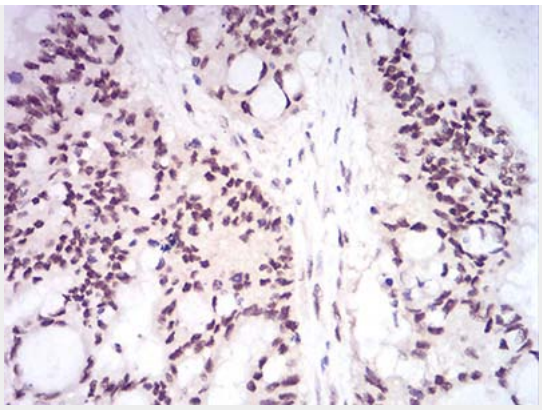
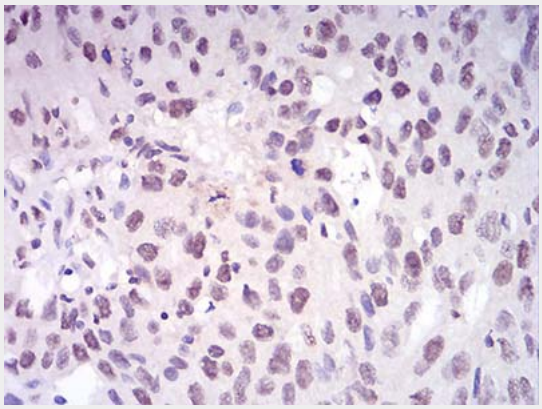


Immunohistochemical analysis of paraffin-embedded colon cancer tissues using DNMT1 mouse mAb with DAB staining.



Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using DNMT1 mouse mAb with DAB staining.

Mouse Monoclonal Antibody to DNMT1 - References

1.J Biol Chem. 2013 Jul 5;288(27):19673-84. ; 2.Int J Oncol. 2013 Jul;43(1):228-36.;