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

(Mouse) Dnmt1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21131a

Specification

(Mouse) Dnmt1 Antibody (Center) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	P13864
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**polyclonal**
Isotype	**Rabbit IgG**

(Mouse) Dnmt1 Antibody (Center) - Additional Information

Gene ID 13433

Other Names
DNA (cytosine-5)-methyltransferase 1, Dnmt1, Met-1, DNA methyltransferase MmuI, DNA MTase MmuI, MMmuI, MCMT, Dnmt1, Dnmt, Met1, Uim

Target/Specificity
This MouseDnmt1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 881-914 amino acids from the Central region of mouse Dnmt1.

Dilution
IF~~1:50
WB~~1:1000
IHC-P~~1:25

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
(Mouse) Dnmt1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

(Mouse) Dnmt1 Antibody (Center) - Protein Information

Name Dnmt1

Synonyms Dnmt, Met1, Uim

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 (By similarity). Also required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (By similarity). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing (By similarity). Promotes tumor growth (By similarity).

Cellular Location
Nucleus. Cytoplasm. Note=It is nucleoplasmic through most of the cell cycle and associates with replication foci during S-phase. In germ cells, spermatogonia, preleptotene and leptotene spermatocytes all express high levels of nuclear protein, while the protein is not detected in pachytene spermatocytes, despite the fact they expressed high levels of mRNA. In females, the protein is not detected in non- growing oocytes, in contrast to the growing oocytes. During the growing, the protein is no longer detectable in nuclei but accumulates to very high levels first throughout the cytoplasm. At the time of ovulation, all the protein is cytoplasmic and is actively associated with the oocyte cortex. After fecondation, in the preimplantation embryo, the protein remains cytoplasmic and after implantation, it is exclusively nuclear in all tissue types. Isoform 2 is sequestered in the cytoplasm of maturing oocytes and of preimplantation embryos, except for the 8-cell stage, while isoform 1 is exclusively nuclear

Tissue Location
Isoform 1 is expressed in embryonic stem cells and in somatic tissues. Isoform 2 is expressed in oocytes, preimplantation embryos, testis and in skeletal muscle during myogenesis

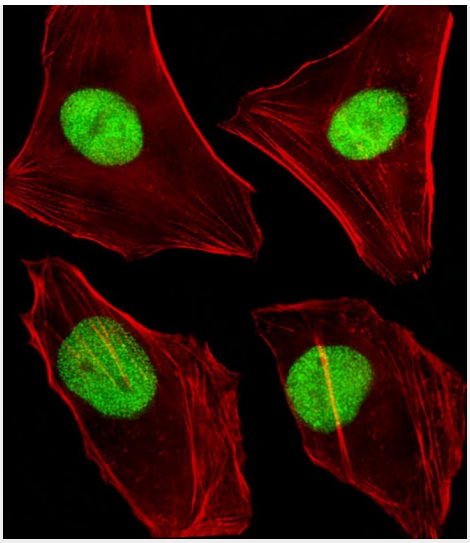
(Mouse) Dnmt1 Antibody (Center) - Protocols

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

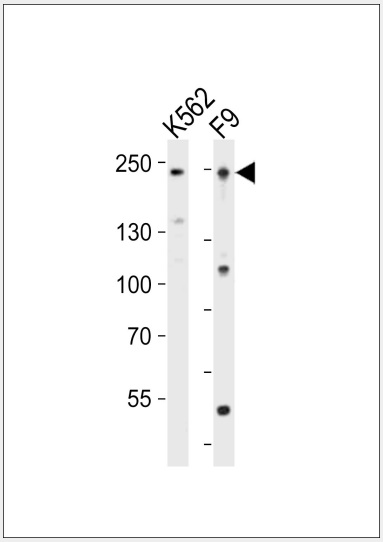
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

(Mouse) Dnmt1 Antibody (Center) - Images

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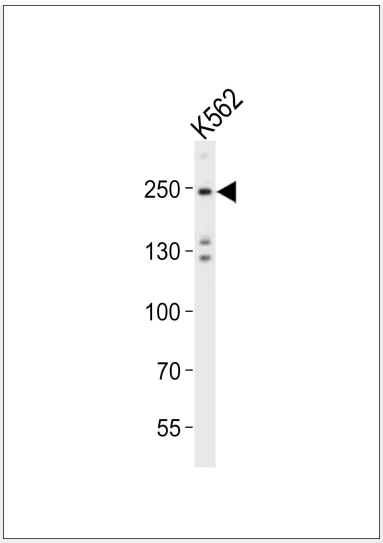


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling Dnmt1 with AP21131a at 1/50 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing nucleus staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).

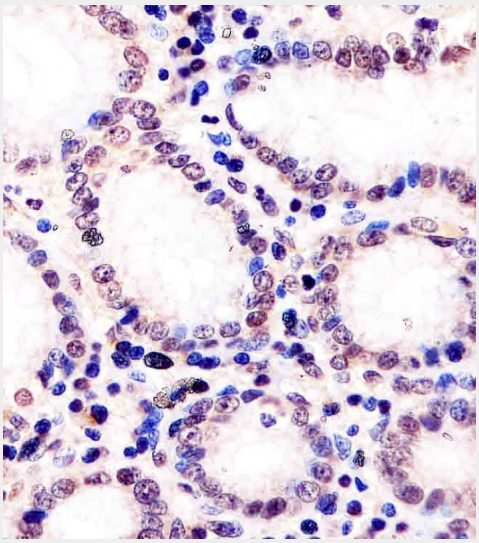


Western blot analysis of lysates from K562, mouse F9 cell line (from left to right), using Dnmt1 Antibody (Center)(Cat. #AP21131a). AP21131a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysates at 20ug per lane.

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Western blot analysis of lysate from K562 cell line, using Dnmt1 Antibody (Center)(Cat. #AP21131a). AP21131a was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.



AP21131a staining (Mouse) Dnmt1 in human stomach tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

(Mouse) Dnmt1 Antibody (Center) - Background

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(Mouse) Dnmt1 Antibody (Center) - References

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Yoder J.A.,et al.J. Biol. Chem. 271:31092-31097(1996).
Aguirre-Arteta A.M.,et al.Cell Growth Differ. 11:551-559(2000).
Margot J.B.,et al.J. Mol. Biol. 297:293-300(2000).
Mertineit C.,et al.Development 125:889-897(1998).

(Mouse) Dnmt1 Antibody (Center) - Citations

- UV irradiation-induced DNA hypomethylation around WNT1 gene: implications for solar lentigines.