
DNMT1 Recombinant Monoclonal Antibody [1A9]

(Catalog # A73746)

Background

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

Description

DNMT1 Recombinant Monoclonal Antibody [1A9]. Unconjugated. Raised in: HEK293F Cell.

Formulation

Buffer: Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.

Specificity

Human

Isotype

Rabbit IgG

Uniprot ID

P26358

Purification

Affinity Chromatography

Immunogen

A synthesized peptide derived from human Dnmt1

Storage

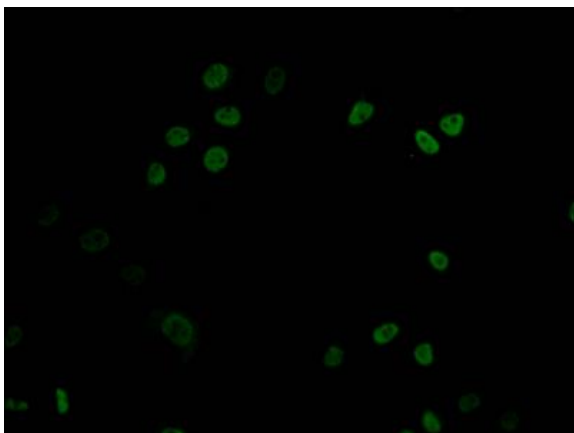
Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Alternative Names

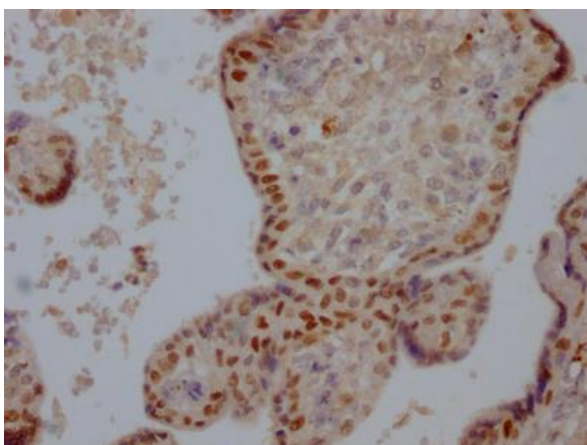
DNA (cytosine-5)-methyltransferase 1 (Dnmt1) (EC 2.1.1.37) (CXXC-type zinc finger protein 9) (DNA methyltransferase Hsa1) (DNA MTase Hsa1) (M.Hsa1) (MCMT), DNMT1, AIM CXXC9 DNMT

Application

ELISA, IHC, IF; Recommended dilution: IHC:1:50-1:200, IF:1:20-1:200



Immunofluorescence staining of HepG2 Cells with DNMT1 rMAb at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



IHC image of DNMT1 rMAb diluted at 1:100 and staining in paraffin-embedded human placenta tissue performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.