

DNMT1 Antibody

DNMT1 Antibody, Clone 11H8 Catalog # ASM10159

Specification

DNMT1 Antibody - Product Information

Application Primary Accession Other Accession Host Isotype Reactivity Clonality **Description** Mouse Anti-Human DNMT1 Monoclonal IgG1

P26358 NP_001370 Mouse IgG1 Human, Mouse Monoclonal

WB

Target/Specificity

Detects ~180kDa. It will cross-react with mouse DNMT1.

Other Names

DNA Mtase Antibody, DNMT Antibody, MCMT Antibody, DNA methyltransferase 1 Antibody, AIM Antibody, CXXC9 Antibody, DNMT Antibody, DNA (cytosine-5)-methyltransferase 1 Antibody, CXXC-type zinc finger protein 9 Antibody, DNA methyltransferase Hsal Antibody

Immunogen Raised against a synthetic peptide corresponding to amino acids 637-650 of human DNMT1

Purification Protein G Purified

Storage -20°C Storage Buffer PBS, 0.05% BSA, 0.05% sodium azide, 50% glycerol

Shipping TemperatureBlue Ice or 4°CCertificate of Analysis2 μg/ml of SMC-231 was sufficient for detection of Dnmt1 in 10 μg of mouse ES cell lysate by
colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Cellular Localization Nucleus

DNMT1 Antibody - Protocols

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

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot



- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

DNMT1 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-DNMT1 Monoclonal Antibody, Clone 11H8 (ASM10159). Tissue: Colon carcinoma cell line (RKO). Species: Human. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-DNMT1 Monoclonal Antibody (ASM10159) at 1:100 for 60 min at RT. Secondary Antibody: Goat Anti-Mouse ATTO 488 at 1:100 for 60 min at RT. Counterstain: Phalloidin Texas Red F-Actin stain; DAPI (blue) nuclear stain at 1:1000, 1:5000 for 60 min at RT, 5 min at RT. Localization: Nucleus. Magnification: 60X. (A) DAPI nuclear stain. (B) Phalloidin Texas Red F-Actin stain. (C) DNMT1. (D) Composite.

DNMT1 Antibody - Background

Methylation of DNA at cytosine residues plays an important role in regulation of gene expression, genomic imprinting and is essential for mammalian development. Hypermethylation of CpG islands in tumor suppressor genes or hypomethylation of bulk genomic DNA may be linked with development of cancer. To date, 3 families of mammalian DNA methyltransferase genes have been identified which include Dnmt1, Dnmt2 and Dnmt3. Dnmt1 is constitutively expressed in proliferating cells and inactivation of this gene causes global demethylation of genomic DNA and embryonic lethality. Dnmt2 is expressed at low levels in adult tissues and its inactivation does not affect DNA methylation or maintenance of methylation. The Dnmt3 family members, Dnmt3a and Dnmt3b, are strongly expressed in ES cells but their expression is down regulated in differentiating ES cells and is low in adult somatic tissue. Dnmt1 co-purifies with the retinoblastoma (Rb) tumour suppressor gene product, E2F1, and HDAC1. Dnmt1 also cooperates with Rb to repress transcription from promoters containing E2F-binding sites suggesting a link between DNA methylation, histone deacetylase and sequence-specific DNA binding activity, as well as a growth-regulatory pathway that is disrupted in nearly all cancer cells (1-6).

DNMT1 Antibody - References

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- 2. Yen R.W., Vertino P.M., Nelkin B.D., et al. (1992) Nucl. Acids Res. 20: 2287-2291.
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- 5. Reik W. et al. (1999) J. Nat. Genet 23: 380-382.
- 6. Robertson K.D., et al. (2000) Nat Genet 25(3): 338-342.