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Datasheet for 200-301-H69

DNMT1 Antibody

Overview

Description:	Anti-DNMT1 (MOUSE) Monoclonal Antibody - 200-301-H69
Item No.:	200-301-H69
Size:	100 µg
Applications:	ChIP, FC, IF, IHC, IP, WB
Reactivity:	Human, Mouse
Host Species:	Mouse

Product Details

Background:	Anti-Dnmt1 antibody detects human Dnmt1. 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) tumor 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. Anti-Dnmt1 antibody is ideal for investigators involved in cancer, cell cycle protein research and epigenetics.
Synonyms:	AIM, CXXC9, DNMT, DNA (cytosine-5)-methyltransferase 1, CXXC-type zinc finger protein 9, DNA methyltransferase HsaI
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	60B1220.1
Format:	IgG1

Target Details

Gene Name:	DNMT1
Reactivity:	Human, Mouse
Immunogen Type:	Conjugated Peptide
Immunogen:	Dnmt1 Antibody was produced in mice prepared by repeated immunizations with a synthetic peptide corresponding to internal amino acids with Dnmt1 human protein.
Purity/Specificity:	Anti-Dnmt1 Antibody was purified by Protein G chromatography. A BLAST analysis was used to suggest cross-reactivity with Dnmt1 from human, mouse and Zebrafish based on 100% homology with the immunizing sequence. Cross-reactivity with Anti-Dnmt1 from other sources has not been determined.
Relevant Links:	• UniProtKB - P26358 • NCBI - NP_001124295.1 • GeneID - 1786

Application Details

Tested Applications:	ChIP, FC, IF, IHC, IP, WB
Application Note:	Anti-DNMT1 antibody is tested for use in WB, ChIP, Flow, Flow-IC, ICC/IF, IHC-Fr, IHC-P, and IP. Expect a band approximately 183 kDa on specific lysates. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	0.1-0.5 µg/mL
FC:	1-5 µg/ml
IHC:	1-2 µg/mL
WB:	0.1-0.5 µg/ml

Formulation

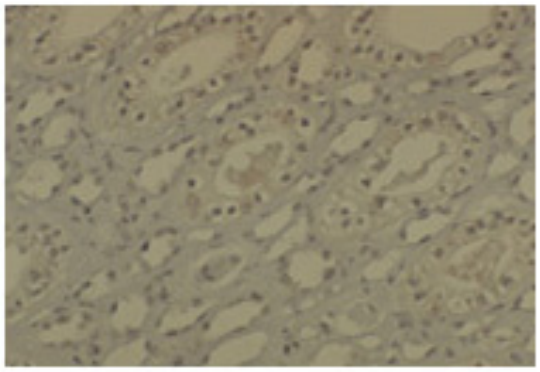
Physical State:	Liquid
Concentration:	1.0mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative:	0.05% (w/v) Sodium Azide

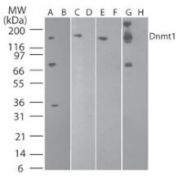
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Immunohistochemistry
Immunohistochemistry of mouse Anti-Dnmt1 antibody. Tissue: medullar kidney. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Dnmt1 at 2 µg/ml for 1 h at RT. Secondary antibody: Peroxidase mouse secondary antibody at 1:10,000 for 45 min at RT. Staining: Dnmt1 is stained brown.



Western Blot
Western Blot of Mouse Anti-Dnmt1 antibody. Lane A: 2102EP (human embryonic carcinoma) without immunizing peptide. Lane B: 2102EP (human embryonic carcinoma) with immunizing peptide. Lane C: recombinant human Dnmt1 protein without immunizing peptide. Lane D: recombinant human Dnmt1 protein with immunizing peptide. Lane E: NIH3T3 without immunzing peptide. Lane F: NIH3T3 with immunizing peptide. Lane G: D3 (mouse embryonic stem cell) without immunizing peptide. Lane H: D3 (mouse embryonic stem cell) with immunizing peptide. Load: 30 µg per lane. Primary antibody: Dnmt1 antibody at 0.5 µg/mL for human cell line, 0.1 µg/mL for recombinant protein overnight at 4°C. Secondary antibody: IRDye800™ mouse secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 183.2 kDa for Dmnt1. Other band(s): nonspecific.

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