

# Product Datasheet

## DNMT1 Antibody (60B1220.1) - BSA Free NB100-56519

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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Updated 4/13/2025 v.20.1

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**NB100-56519**

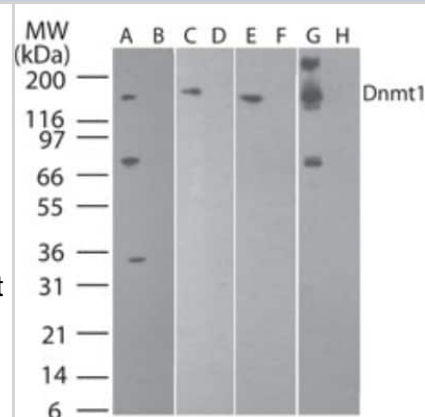
DNMT1 Antibody (60B1220.1) - BSA Free

Product Information	
Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	60B1220.1
Preservative	0.05% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein G purified
Buffer	PBS
Product Description	
Host	Mouse
Gene ID	1786
Gene Symbol	DNMT1
Species	Human, Mouse, Rat, Porcine, Bovine, Sheep
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 19924110). Porcine reactivity reported in scientific literature (PMID: 23808878). Sheep reactivity reported in scientific literature (PMID: 20413592). Bovine reactivity reported in scientific literature (PMID:27384909).
Immunogen	This antibody was raised against a synthetic peptide corresponding to amino acids 637-650 (EKDDREDKENAFKR) of human Dnmt1 (Genbank Accession No. NP_001370).
Product Application Details	
Applications	Western Blot, Simple Western, Immunohistochemistry-Paraffin, Flow Cytometry, Flow (Intracellular), Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP), CyTOF-ready, Immunohistochemistry Free-Floating, Knockdown Validated
Recommended Dilutions	Western Blot 0.1-0.5 ug/ml, Simple Western 1:100, Flow Cytometry 1 - 5 ug/mL, Immunohistochemistry 1:50-1:500, Immunocytochemistry/ Immunofluorescence 1:10. Use reported in scientific literature (PMID 24386225), Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:50-1:500, Immunohistochemistry-Frozen 1:500, Flow (Intracellular) reported in scientific literature (PMID 24578214), Immunohistochemistry Free-Floating 1:500, Chromatin Immunoprecipitation (ChIP) 1:20-1:1000, CyTOF-ready, Knockdown Validated reported in scientific literature (PMID 31799621)
Application Notes	In Simple Western only 10-15 uL of the recommended dilution is used per data point. See <a href="#">Simple Western Antibody Database</a> for Simple Western validation: Tested in HeLa lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:100. Separated by Size-Wes, Sally Sue/Peggy Sue.

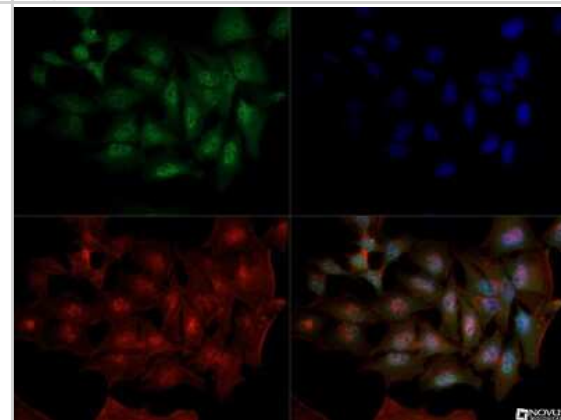


## Images

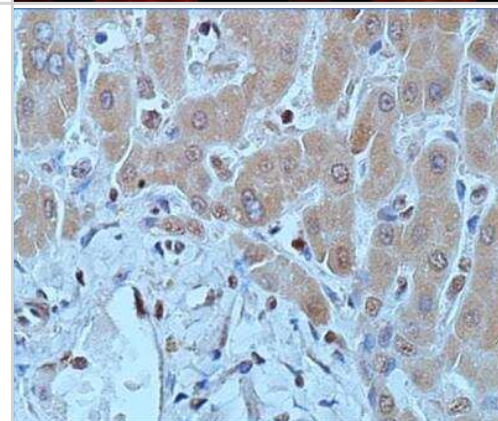
**Western Blot: DNMT1 Antibody (60B1220.1) [NB100-56519]** - Analysis of Dnmt1 in 2102EP (human embryonic carcinoma) in the A) absence and B) presence of immunizing peptide, recombinant human Dnmt1 protein in the C) absence and D) presence of immunizing peptide, NIH 3T3 (mouse embryonic fibroblast) in the E) absence and F) presence of immunizing peptide, and D3 (mouse embryonic stem cell) in the G) absence and H) presence of immunizing peptide using Dnmt1 antibody. this antibody. 5 ug/ml for testing the human cell line and 0.1 ug/ml was used for testing the recombinant protein and the mouse cell lines. 's goat anti-mouse Ig HRP secondary antibody and PicoTest ECL substrate solution were used for this test.



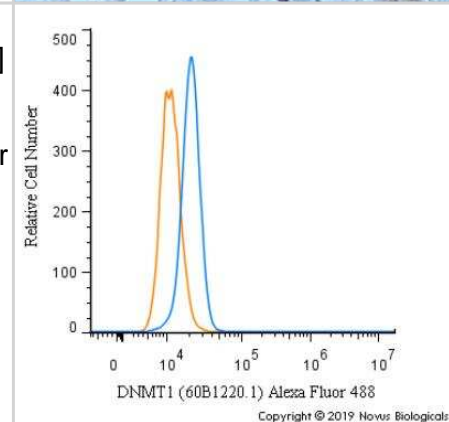
**Immunocytochemistry/Immunofluorescence: DNMT1 Antibody (60B1220.1) [NB100-56519]** - Dnmt1 antibody was tested in HeLa cells with Dylight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red). Antibody dilution of 1:10 was used. Image objective 40x.



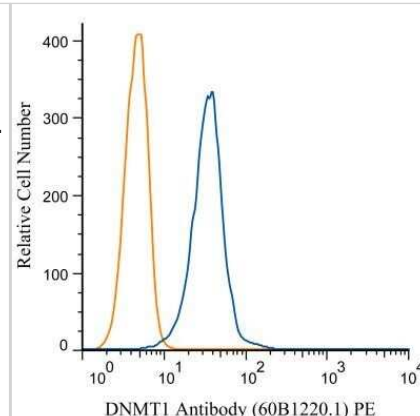
**Immunohistochemistry-Paraffin: DNMT1 Antibody (60B1220.1) [NB100-56519]** - Tissue section of human hepatocellular carcinoma at 1:50 dilution.



**Flow Cytometry: DNMT1 Antibody (60B1220.1) [NB100-56519]** - An intracellular stain was performed on HeLa cells with DNMT1 [60B1220.1] Antibody NB100-56519AF488 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 488.



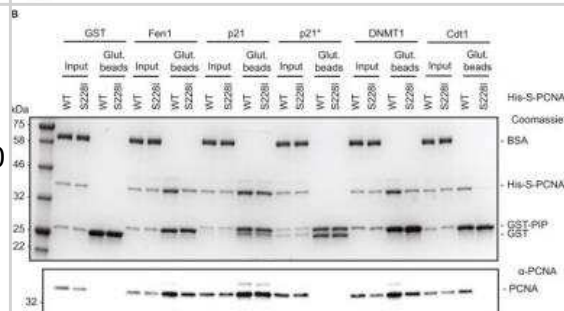
**Flow Cytometry: DNMT1 Antibody (60B1220.1) [NB100-56519] - Analysis of PE conjugate of NB100-56519.** An intracellular stain was performed on HeLa cells with DNMT1 antibody (60B1220.1) NB100-56519PE (blue) and a matched isotype control NBP2-27287PE (orange). Cells were fixed with 4% PFA and then permeabilized with 0



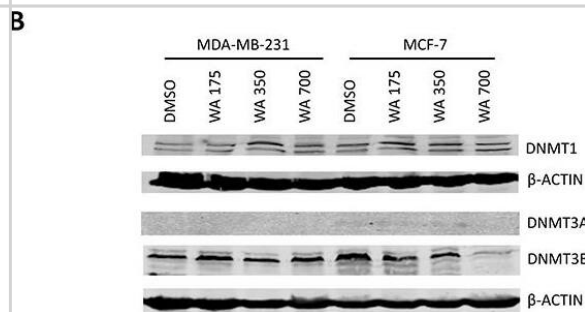
**Simple Western: DNMT1 Antibody (60B1220.1) [NB100-56519] - Simple Western lane view shows a specific band for Dnmt1 in 0.5 mg/mL of HeLa lysate.** This experiment was performed under reducing conditions using the 12-230 kDa separation system.



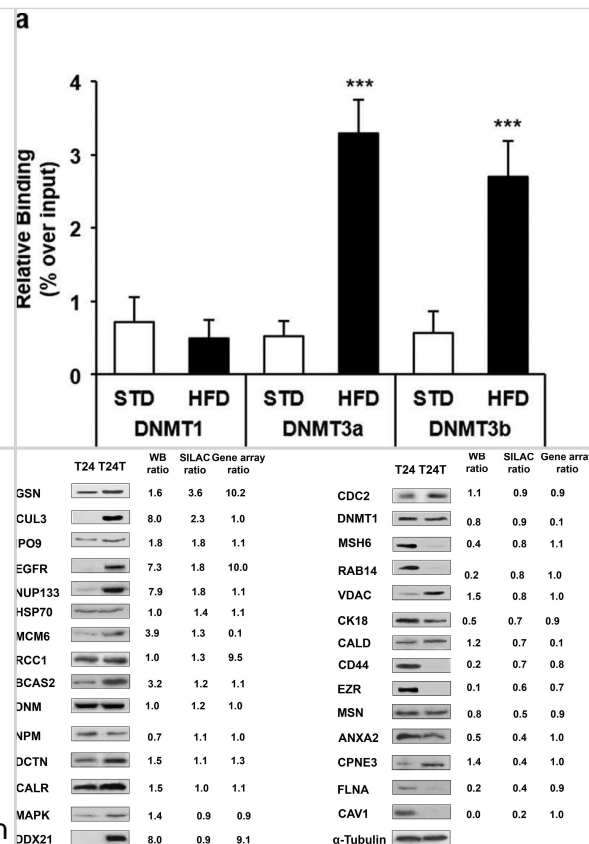
**Immunoprecipitation: DNMT1 Antibody (60B1220.1) [NB100-56519] - The PCNAS228I mutation differentially affects PCNA binding to PIP box-containing proteins.** GST-PIP pull down of His-S-PCNA<sup>WT</sup> or PCNAS228I. Figure shows Coomassie stained gel of representative pull down (top) and anti-PCNA western blot of the same samples diluted 1:20 (bottom). Amount of 'input' loaded for Coomassie is equivalent to 1%, 'Glut. beads' (Glutathione sepharose 4B beads) is equivalent to 25%. Molecular weight markers are indicated. Image collected and cropped by CiteAb from the following publication (<https://linkinghub.elsevier.com/retrieve/pii/S1568786416304013>), licensed under a CC-BY license.



**Western Blot: DNMT1 Antibody (60B1220.1) - BSA Free [NB100-56519] - WA does not alter DNMTs gene & protein expression(A) Effect of WA on DNMT1, DNMT3A & DNMT3B gene expression in MDA-MB-231 & MCF-7 cells normalized to select housekeeping genes & relative to DMSO-treated MCF-7 sample (2- $\Delta\Delta C_t$ ) as determined by Human Epigenetic Chromatin Modification Enzyme qPCR Array as previously described. Bars represent DNMT1, DNMT3A & DNMT3B relative mRNA (mean  $\pm$  SEM) expression of at least two independent experiments. (B) Effect of WA on DNMT1, DNMT3A & DNMT3B protein expression in MDA-MB-231 & MCF-7 cells, as compared to  $\beta$ -Actin protein levels. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/28467815>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.**



**Chromatin Immunoprecipitation: DNMT1 Antibody (60B1220.1) - BSA Free [NB100-56519]** - Epigenetic changes & protein binding at Ankrd26 promoter in eAT from mice upon 22 weeks of HFD. ChIP of DNMT1, DNMT3a, DNMT3b (a) & MBD2 (b) binding at Ankrd26 promoter region (-553 bp/-348 bp). (c) MNase for Nuc-2 (-257 bp/-198 bp) & Nuc-1 (-84 bp/-25 bp) occupancy at Ankrd26 promoter. (d) ChIP for acetyl-H4 enrichment at Nuc-2 & Nuc-1. (e) ChIP of RNA Pol II binding at Ankrd26 TSS (+16 bp/+159 bp). (a,b) & (d,e), ChIP enrichment is relative to Input chromatin. (a-e), results are mean  $\pm$  SD from three independent experiments. \*\* $p$  < 0.01 & \*\*\* $p$  < 0.001 vs STD. Image collected & cropped by CiteAb from the following publication (<https://www.nature.com/articles/srep43526>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



**Western Blot: DNMT1 Antibody (60B1220.1) - BSA Free [NB100-56519]** - Verification of the expression of the proteins identified. (A) Validation of the SILAC results of selected proteins in immunoblots of protein extracts from the bladder cancer cells analyzed. The results validated the expression levels of proteins identified by the proteomic approach, including differentially & non-differentially expressed candidates. Antibodies displaying a single predominant band at the expected molecular weights were accepted: &  $\alpha$ -tubulin, was used as the loading control. GSN, Gelsolin; Cul3, Cullin 3; IPO9, Importin 9; EGFR, Epidermal Growth Factor Receptor; NUP133, Nucleoporin 133; HSP70, Heat Shock Protein 70kDa; MCM6, Minichromosome Maintenance Complex Component 6; RCC1, Regulator of Chromosome Condensation 1; BCAS2, Breast Carcinoma Amplified Sequence 2; DNM, Dynamin; NPM, Nucleophosmin; DCTN, Dynactin; CALR, Calreticulin; MAPK, Mitogen-Activated Protein Kinase; DDX21, DEAD (Asp-Glu-Ala-Asp) box polypeptide 21; CDC2: Cell Division Cycle 2; DNMT1, DNA (cytosine-5)-Methyltransferase 1; MSH6, MutS Homolog 6; RAB14, GTPase Rab14; VDAC, Voltage-Dependent Anion Channel; CK18, Cytokeratin 18; CALD, Caldesmon; CD44, CD44 antigen isoform 1 precursor 2; EZR, Ezrin; MSN, Moesin; ANXA2, Annexin A2; CPNE3, Copine 3; FLNA, Filamin A; CAV1, Caveolin 1. Western Blots were scanned & analyzed using  $\alpha$ -tubulin as normalizing control. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/23308193>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Shin H, Leung A, Costello KR et al. Inhibition of DNMT1 methyltransferase activity via glucose-regulated O-GlcNAcylation alters the epigenome eLife 2023-07-20 [PMID: 37470704]

Alvarez MEG, McGuire BC, Keating AF Obesity alters the ovarian proteomic response to zearalenone exposure Biology of reproduction 2021-04-14 [PMID: 33855340]

Piotr Kaczynski, Monika Baryla, Ewelina Goryszewska, Agnieszka Wacławik, Cristoforo Comi Estradiol-17 $\beta$  Regulates Expression of Luteal DNA Methyltransferases and Genes Involved in the Porcine Corpus Luteum Function In Vivo International Journal of Molecular Sciences 2021-04-01 [PMID: 33915762]

Adelaide E Weidner, Anna Roy, Kenji Vann, Ariana C Walczyk, Olga Astapova Paxillin regulates androgen receptor expression associated with granulosa cell focal adhesions Molecular Human Reproduction 2024-05-01 [PMID: 38718206]

Jekaterina Vohhodina, Liana J. Goehring, Ben Liu, Qing Kong, Vladimir V. Botchkarev Jr., Mai Huynh, Zhiqi Liu, Fieda O. Abderazzaq, Allison P. Clark, Scott B. Ficarro, Jarrod A. Marto, Elodie Hatchi, David M. Livingston BRCA1 binds TERRA RNA and suppresses R-Loop-based telomeric DNA damage Nature Communications 2021-06-10 [PMID: 34112789]

Yang C, Deng L, Bao F et al. Sevoflurane with Low Concentration Decrease DNA Methylation on Chronic Obstructive Pulmonary Disease (COPD)-Related Gene Promoter in COPD Rat COPD 2023-12-01 [PMID: 38010369] (WB)

Chen X, Liu J, Li Y et al. IDH1 mutation impairs antiviral response and potentiates oncolytic virotherapy in glioma Nature communications 2023-10-25 [PMID: 37880243] (WB, ChIP, Mouse)

### Details:

1:1000 dilution IB, 1:150 ChIP

Okuno K, Pratama MY, Li J et al. Ginseng mediates its anti-cancer activity by inhibiting the expression of DNMTs and reactivating methylation-silenced genes in colorectal cancer Carcinogenesis 2023-05-03 [PMID: 37137336]

Tang Y, Hong F, Ding S et al. METTL3-mediated m6A modification of IGFBP7-OT promotes osteoarthritis progression by regulating the DNMT1/DNMT3a-IGFBP7 axis Cell reports 2023-06-02 [PMID: 37270777] (RNA immunoprecipitation, Human)

Dai Z, Liu X, Zeng H, Chen Y Long noncoding RNA HOTAIR facilitates pulmonary vascular endothelial cell apoptosis via DNMT1 mediated hypermethylation of Bcl-2 promoter in COPD Respiratory research 2022-12-17 [PMID: 36527094] (WB, Human)

Mahadevan KK, McAndrews KM, LeBleu VS et al. Oncogenic Kras G12D specific non-covalent inhibitor reprograms tumor microenvironment to prevent and reverse early pre-neoplastic pancreatic lesions and in combination with immunotherapy regresses advanced PDAC in a CD8 + T cells dependent manner bioRxiv : the preprint server for biology 2023-02-18 [PMID: 36824971] (ChIP, Mouse)

Subramani P, Nagarajan N, Mariaraj S, Vilwanathan R Knockdown of sirtuin6 positively regulates acetylation of DNMT1 to inhibit NOTCH signaling pathway in non-small cell lung cancer cell lines Cellular signalling 2023-02-20 [PMID: 36813148] (IP, ICC/IF, WB, Human)

More publications at <http://www.novusbio.com/NB100-56519>





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### **Products Related to NB100-56519**

HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)
NB100-56519PE	DNMT1 Antibody (60B1220.1) [PE]

### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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