

Resource Summary Report

Generated by [NIF](#) on Sep 5, 2026

pcDNA3/Myc-DNMT1

RRID:Addgene_36939

Type: Plasmid

Proper Citation

RRID:Addgene_36939

Plasmid Information

URL: <http://www.addgene.org/36939>

Proper Citation: RRID:Addgene_36939

Insert Name: DNMT1

Organism: Homo sapiens

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:16682412](#)

Vector Backbone Description: Backbone Marker:Invitrogen; Backbone Size:5400; Vector Backbone:pcDNA3; Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Comments: The multiple cloning region of the pcDNA3 vector has been modified. In the modified vector, referred to as pcDNA3/Myc, the region of the multiple cloning site located between the HindIII and NotI sites was replaced by a DNA segment containing a Kozak consensus sequence, an ATG start site and the Myc epitope sequence followed by EcoRI restriction site (see supplemental document). The construction of pcDNA3/Myc has been described in Chen, Z.X., et al. J Cell Biochem, 95: 902-917. The full-length cDNA for human DNMT1 was cloned into EcoRI and NotI sites of pcDNA3/Myc. Constructed by Zhaoxia Chen.

Plasmid Name: pcDNA3/Myc-DNMT1

Record Creation Time: 20220422T222156+0000

Record Last Update: 20260905T075542+0000

Ratings and Alerts

No rating or validation information has been found for pcDNA3/Myc-DNMT1.

No alerts have been found for pcDNA3/Myc-DNMT1.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 32 mentions in open access literature.

Listed below are recent publications. The full list is available at [NIF](#) .

Manna S, et al. (2026) KIF5A upregulation by FAK-mediated downregulation of epigenetic modifiers promotes mitochondrial dynamics in neuronal differentiation. FEBS letters, 600(1), 63.

Quarto G, et al. (2025) Fine-tuning of gene expression through the Mettl3-Mettl14-Dnmt1 axis controls ESC differentiation. Cell, 188(4), 998.

Guida N, et al. (2024) Stroke Causes DNA Methylation at Ncx1 Heart Promoter in the Brain Via DNMT1/MeCP2/REST Epigenetic Complex. Journal of the American Heart Association, 13(6), e030460.

Hoang NM, et al. (2024) Targeting DNMT3A-mediated oxidative phosphorylation to overcome ibrutinib resistance in mantle cell lymphoma. Cell reports. Medicine, 5(4), 101484.

Shin H, et al. (2023) Inhibition of DNMT1 methyltransferase activity via glucose-regulated O-GlcNAcylation alters the epigenome. eLife, 12.

Okuda K, et al. (2023) Pivotal role for S-nitrosylation of DNA methyltransferase 3B in epigenetic regulation of tumorigenesis. Nature communications, 14(1), 621.

Yamada Y, et al. (2023) Targeting DNA methylation and B7-H3 in RB1-deficient and neuroendocrine prostate cancer. Science translational medicine, 15(722), eadf6732.

Liu H, et al. (2022) Geometric Constraints Regulate Energy Metabolism and Cellular Contractility in Vascular Smooth Muscle Cells by Coordinating Mitochondrial DNA Methylation. Advanced science (Weinheim, Baden-Wurttemberg, Germany), 9(32), e2203995.

Sharma V, et al. (2022) Re-Expression of ER α and AR in Receptor Negative Endocrine Cancers via GSK3 Inhibition. Frontiers in oncology, 12, 824594.

Wang J, et al. (2022) Matrix stiffness exacerbates the proinflammatory responses of vascular smooth muscle cell through the DDR1-DNMT1 mechanotransduction axis. Bioactive materials, 17, 406.

Switzer CH, et al. (2022) NOS2 and S-nitrosothiol signaling induces DNA hypomethylation and LINE-1 retrotransposon expression. *Proceedings of the National Academy of Sciences of the United States of America*, 119(21), e2200022119.

Cao K, et al. (2021) Hypermethylation of Hepatic Mitochondrial ND6 Provokes Systemic Insulin Resistance. *Advanced science* (Weinheim, Baden-Wurttemberg, Germany), 8(11), 2004507.

Kaplun D, et al. (2021) Kaiso Regulates DNA Methylation Homeostasis. *International journal of molecular sciences*, 22(14).

Zhang X, et al. (2021) TXNIP, a novel key factor to cause Schwann cell dysfunction in diabetic peripheral neuropathy, under the regulation of PI3K/Akt pathway inhibition-induced DNMT1 and DNMT3a overexpression. *Cell death & disease*, 12(7), 642.

Huang X, et al. (2021) Gene body methylation safeguards ribosomal DNA transcription by preventing PHF6-mediated enrichment of repressive histone mark H4K20me3. *The Journal of biological chemistry*, 297(4), 101195.

Finnegan AI, et al. (2020) Epigenetic engineering of yeast reveals dynamic molecular adaptation to methylation stress and genetic modulators of specific DNMT3 family members. *Nucleic acids research*, 48(8), 4081.

Liu YF, et al. (2020) Hypermethylation of mitochondrial DNA in vascular smooth muscle cells impairs cell contractility. *Cell death & disease*, 11(1), 35.

Huang MH, et al. (2019) Epigenetic targeting DNMT1 of pancreatic ductal adenocarcinoma using interstitial control release biodegrading polymer reduced tumor growth through hedgehog pathway inhibition. *Pharmacological research*, 139, 50.

Tang RZ, et al. (2019) DNA methyltransferase 1 and Krüppel-like factor 4 axis regulates macrophage inflammation and atherosclerosis. *Journal of molecular and cellular cardiology*, 128, 11.

Lyu G, et al. (2019) Metastasis-related methyltransferase 1 (Merm1) represses the methyltransferase activity of Dnmt3a and facilitates RNA polymerase I transcriptional elongation. *Journal of molecular cell biology*, 11(1), 78.