

Active Recombinant Full Length Human DNMT1 Protein, C-Flag-tagged

Cat. No. DNMT1-201HFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Full Length Human DNMT1 Protein, fused to Flag-tag at C-terminus, was expressed in Mammalian cells.
Species	Human
Source	Mammalian Cells
Description	This gene encodes an enzyme that transfers methyl groups to cytosine nucleotides of genomic DNA. This protein is the major enzyme responsible for maintaining methylation patterns following DNA replication and shows a preference for hemi-methylated DNA. Methylation of DNA is an important component of mammalian epigenetic gene regulation. Aberrant methylation patterns are found in human tumors and associated with developmental abnormalities. Variation in this gene has been associated with cerebellar ataxia, deafness, and narcolepsy, and neuropathy, hereditary sensory, type IE. Alternative splicing results in multiple transcript variants.
Form	25 mM Tris HCl, pH 7.3, 100 mM glycine, 10% glycerol.
Bio-activity	DNMT1 activity verified in a biochemical assay: DNMT1 (DNA (cytosine-5-)-methyltransferase 1) is a key methyltransferase that is responsible for maintaining methylation patterns established in development. DNMT1 preferentially methylates hemi-methylated CpG di-nucleotides and associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand. Varying concentrations of

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

DNMT1 were added to a microplate containing a bound methyltransferase substrate. After incubation, the resulting methylated DNA residues were detected immunologically and a colorimetric signal was generated and measured.

Molecular Mass 184.6 kDa

AA Sequence

MPARTAPARVPTLAVPAISLPDDVRRRLKDLERDSLTEKECVKEKLNLLHEFLQTEIK
 NQLCDLETKLRK EELSEEGYLAKVKSLLNKDLSLENGAHAYNREVNGRLENGNQAR
 SEARRVGMADANSPPKPLSKPRTPRR SKSDGEAKRSRDPPASASQVTGIRAEPSP
 SPRITRKSTRQTTITSHFAKGPAKRKPQEESERAKSDESIK EEDKDQDEKRRRVTSR
 ERVARPLPAEPPERAKSGTRTEKEEERDEKEEKRLRSQTKEPTPKQKLKEEPDR EA
 RAGVQADEDEDGDEKDEKKHRSQPKDLAAKRRPEEKEPEKVPNPQISDEKDEDEKE
 EKRRKTTPKEPTE KKMARAKTVMNSKTHPPKCIQCGQYLDDPDLKYGQHPPDAVD
 EPQMLTNEKLSIFDANESGFESYEALPQ HKLTCFSVYCKHGHLCPIDTGLIEKNIELF
 FSGSAKPIYDDDP SLEGGVNGKNLGPINWWITGFDGGEK ALIGFSTSFAEYILMDP
 SPEYAPIFGLMQEKIYISKIVVEFLQSNSDSTYEDLINKIETTVPPSGLNLNR FTEDSLL
 RHAQFVVEQVESYDEAGDSDEQPIFLTPCMRDLIKLAGVTLGQRRRAQARRQTIRHST
 REKDRG PTKATTTKL VYQIFDTFFAEQIEKDDREDKENAFKRRRCGVCEVCQQPEC
 GKCKACKDMVKFGGSGRSKQ ACQERRCPNMAMKEADDDEEVDDNIPEMPSPKK
 MHQGKKKKQKNRISWVGEAVKTDGKKSYYKKVCIDA ETLEVGDVSVIPDDSSKP
 LYLARVTALWEDSSNGQMFHAHWFCAGTDTVLGATSDPLELFLVDECEDMQ LSYI
 HSKVKVIYKAPSENWAMEGGMDPESLLEGDDGKTYFYQLWYDQDYARFESPPKTQ
 PTEDNKFKFCV SCARLAEMRQKEIPRVLEQLEDLDSRVLYYSATKNGILYRVGDGV
 YLPPEAFTFNIKLSPPVKRPRKEPV DEDLYPEHYRKYSYIKGSNLDAPEPYRIGRIK
 EIFCPKKSNGRPNETDIKIRVNKFYRPENTHKSTPAS YHADINLLYWSDEEAVVDFK
 AVQGRCTVEYGEDLPECVQVYSMGGPNRFYFLEAYNAKSKSFEDPPNHAR SPGN
 KGKGKGKGKPKSQACEPSEPEIEIKLPKLRTLDVFSGCGGLSEGFBHQAGISDTLW
 AIEMWDPAQAFRLNNPGSTVFTEDCNILLKLV MAGETTNSRGQRLPQKGDVEML
 CGGPPCQGFSGMNRFNRSRTYSKFK NSLVVSFLSYCDYYRPRFFLENNVRNFVSFK
 RSMVLKLTLRCLVRMGYQCTFGVLQAGQYGVAQTRRAI ILAAAPGEKLPFPPEPL

HVFAPRACQLSVVVDDKKFVSNITRLSSGPFRTITVRDTMSDLPEVRNGASAL EISY
 NGEPQSWFQRQLRGAQYQPILRDHICKDMSALVAARMRHIPLAPGSDWRDLPNIEV
 RLSDGTMARK LRYTHHDRKNGRSSSGALRGVCSCVEAGKACDPAARQFNTLIPWC
 LPHTGNRHNHWAGLYGRLEWDGFFS TTVTNPEPMGKQGRVLHPEQHRVVSVREC
 ARSQGFDPDYLFGNILDKHRQVGNAVPPPLAKAIGLEIKL
 CMLAKARESASAKIKEEEAAKDTRTRPLEQKLISEEDLAANDILDYKDDDDKV

Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining.
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade.
Concentration	>50 ug/mL as determined by microplate BCA method.
Preparation	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Protein Families	Druggable Genome, Transcription Factors
Protein Pathways	Cysteine and methionine metabolism, Metabolic pathways
Full Length	Full L.

GENE INFORMATION

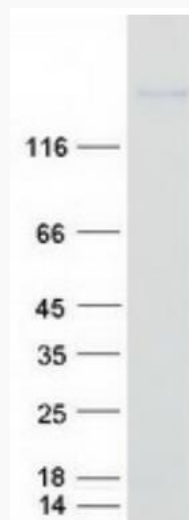
Gene Name	DNMT1 DNA methyltransferase 1 [Homo sapiens (human)]
Official Symbol	DNMT1

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Synonyms	AIM; DNMT; MCMT; CXXC9; HSN1E; ADCADN; m.HsaI
Gene ID	1786
mRNA Refseq	NM_001130823.3
Protein Refseq	NP_001124295.1
MIM	126375
UniProt ID	P26358



Coomassie blue staining of purified DNMT1 protein.