

DNMT1 recombinant protein

Recombinant Human DNMT1 Protein

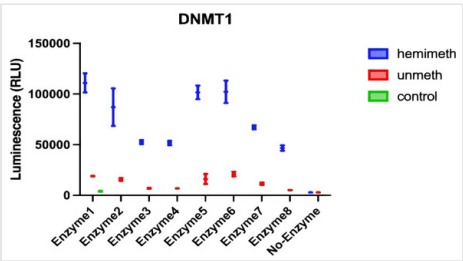
CATALOG #
AAA283374HOST
HEK293 cells

PRODUCT SYNONYMS

DNMT1; Recombinant Human DNMT1 Protein; AIM; CXXC9; DNMT; DNA (cytosine-5)-methyltransferase 1; Dnmt1; 2.1.1.37; CXXC-type zinc finger protein 9; DNA methyltransferase Hsal; DNA MTase Hsal; M.Hsal; MCMT; DNMT1 recombinant protein

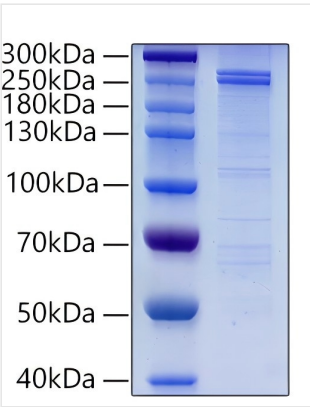
PRODUCT SPECIFICATIONS

Host	HEK293 cells
Form/Format	Supplied as 0.22 um filtered solution in 25mM Hepes-NaOH, 500mM NaCl, 0.04%, tritonX 100, 0.5mM TCEP, 10%glycerol, pH7.5.
Sequence	PARTAPARVP TLAVPAISLP DDVRRRLKDL ERDSLTEKEC VKEKLNLLHE FLQTEIKNQL CDLETKLKRE ELSEEGYLAK VKSLLNKDLS LENGAHAYNR EVNGRLENGN QARSEARRVG MADANSPPKP LSKPRTPRRS KSDGEAKRSR DPPASASQVT GIRAEPSPSP RITRKSTRQT TITSHFAKGP AKRKPQEESE RAKSDESIKE EDKDQDEKRR RVTSRERVAR PLPAEEPERA KSGTRTEKEE ERDEKEEKRL RSQTKPTPK QKLKEEPDRE ARAGVQADED EDGDEKDEKK HRSQPKDLAA KRRPEEKEPE KVN PQISDEK DEDEKEEKRR KTTPKPEPTEK KMARAKTVMN SKTHPPKCIQ CGQYLDDPDL KYGQHPPDAV DE PQMLTNEK LSIFDANESG FESYEALPQH KLTCFSVYCK HGHLCPIDTG LIEKNIELFF SGSAKPIYDD DPSLEGGVNG KNLGPINWW ITGFDGGEKA LIGFSTSFAE YILMDPSPEY APIFGLMQEK IYISKIVVEF LQSNDSSTYE DLINKIETTV PPSGLNLRNF TEDSLLRHAQ FVVEQVESYD EAGDSDEQPI FLTPCMRDLI KLAGVTLGQR RAQARRQTIR HSTREKDRGP TKATTTKL VY QIFDTFFAEQ IEKDDREDKE NAFKRRRCGV CEVCQQPECG KCKACKDMVK FGGSGRSKQA CQERRCPNMA MKEADDDEEV DDNIPEMPSP KKM HQGKKK QNKNRISWVG EAVKTDGKKS YKKVCIDAE TLEVGD VSV IPDDSSKPLY LARVTALWED SSNGQMFHAH WFCAGTDTVL GATSDPLELF LVDECEDMQL SYIHSKV KVI YKAPSENWAM EGGMDPESLL EGDDGKTYFY QLWYDQDYAR FESPPKTQPT EDNKFKFCVS CARLAEMRQK EIPRVLEQLE DLDSRVLYS ATKNGILYRV GDGVYLPPEA FTFNIKLSPP VKRPRKEPVD EDLYPEHYRK YSDYIKGSNL DAPEPYRIGR IKEIFCPKKS NGRPNETDIK IRVNFYRPE NTHKSTPASY HADINLLYWS DEEAVVDFKA VQGRCTVEYG EDLPECVQVY SMGGPNRFYF LEAYNAKSKS FEDPPNHARS PGNKGKGK GKGP KSKQAC EPSEPEIEIK LPKLRTL DVF SGCGGLSEG F HQAGISDTLW AIEMWDPAAQ AFRLNNPGST VFTEDCNILL KLVMAGETTN SRGQLPQKG DVEMLCGGPP CQFGSGMNR F NSRTYSKFKN SLVVSFLSYC DYYRPRFFLL ENVRNFVSFK RSMVLKLT LR CLVRMGYQCT FGV LQAGQYG VAQTRRRAI LAAAPGEKLP LFPEPLHVFA PRACQLSVVV DDKKFVSNIT RLSSGPFRTI TVRDTMSDLP EVRNGASALE ISYNGEPQSW FQRQLRGAQY QPILRDHICK DMSALVAARM RHIPLAPGSD WRDL PNIEVR LSDGTMARKL RYTHHDRKNG RSSSGALRGV CSCVEAGKAC DPAARQFNTL IPWCLPHTGN RHNHWAGLYG RLEWDGFFST TVTNPEPMGK QGRVLHPEQH RVVSVRECAR SQGFDPD TYRL FGNILDKHRQ VGNVPPPLA KAIGLEIKLC MLAKARESAS AKIKEEEAAK D
Species	Human
Tag	C-His
Endotoxin	<1EU/ug
Bio-Activity	The 42 base pair of DNA duplex containing three hemimethylation sites (2.5 uM) was methylated with the recombinant DNMT1 (0.18 mg/mL) including 20 uM SAM in reaction buffer (20 mM Tris-HCl [pH8.0], 50 mM NaCl, 1 mM EDTA, 3 mM MgCl ₂ , 0.1 mg/mL BSA, and 1 mM DTT) at 37 degree C for 1 hr. Then methyltransferase assay was performed using MTase-Glo Methyltransferase Assay (Promega, V7601). Enzyme 1-4 represent RP01868LQ, Enzyme 5-8 represent recombinant DNMT1 with a 6×His tag at the N-terminus. (Customer feedback data)
Preparation and Storage	Store at -70 degree C. This product is stable at <= -70 degree C for up to 1 year from the date of receipt. For optimal storage, aliquot into smaller quantities after centrifugation and store at recommended temperature. Avoid repeated freeze-thaw cycles.



Application Data

The 42 base pair of DNA duplex containing three hemimethylation sites (2.5 uM) was methylated with the recombinant DNMT1 (0.18 mg/mL) including 20 uM SAM in reaction buffer (20 mM Tris-HCl [pH 8.0], 50 mM NaCl, 1 mM EDTA, 3 mM MgCl₂, 0.1 mg/mL BSA, and 1 mM DTT) at 37 °C for 1 hr. Then methyltransferase assay was performed using MTase-Glo™ Methyltransferase Assay (Promega, V7601). Enzyme 1-4 represent AAA283374, Enzyme 5-8 represent recombinant DNMT1 with a 6×His tag at the N-terminus. (Customer feedback data)



SDS-PAGE

Recombinant Human DNMT1 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 250-300 kDa.

ADDITIONAL INFORMATION

Related Product Information for DNMT1 recombinant protein	DNMT1 (DNA (Cytosine-5)-Methyltransferase 1) proteins are involved in DNA methylation in which a methyl group is added to a cytosine residue on DNA, commonly at the C5 position of a CpG dinucleotide. Three families of DNMTs have been identified: DNMT1, DNMT2, and DNMT3 (comprised of DNMT3A and DNMT3B).Methylates CpG residues. Preferentially methylates hemimethylated DNA. Associates with DNA replication sites in S phase maintaining the methylation pattern in the newly synthesized strand, that is essential for epigenetic inheritance. Associates with chromatin during G2 and M phases to maintain DNA methylation independently of replication. It is responsible for maintaining methylation patterns established in development. DNA methylation is coordinated with methylation of histones. Mediates transcriptional repression by direct binding to HDAC2. In association with DNMT3B and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9.
Product Categories/Family for DNMT1 recombinant protein	Other Recombinant Protein; Proteins

NCBI AND UNIPROT INFORMATION

NCBI GI #	12231019
NCBI GeneID	1786
UniProt Accession #	P26358; Q9UHG5; Q9ULA2; Q9UMZ6; A0AV63; B7ZLW6
UniProt Protein Name	DNA (cytosine-5)-methyltransferase 1
UniProt Gene Name	DNMT1
UniProt Synonym Gene Names	AIM; CXXC9; DNMT; Dnmt1; DNA MTase HsaI; M.HsaI
UniProt Entry Name	DNMT1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.