

Recombinant Rat DNMT1 Protein (His Tag)

Catalog No. PKSR040470

Note: Centrifuge before opening to ensure complete recovery of vial contents.

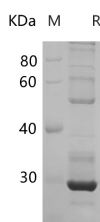
Description

Synonyms	DNA (cytosine-5)-methyltransferase 1, Dnmt1, Met-1, DNA methyltransferase MmuI, DNA MTase MmuI, M.MmuI, MCMT, Dnmt, Met1, Uim
Species	Rat
Expression Host	E.coli
Sequence	Phe950-Pro1142
Accession	Q9Z330
Calculated Molecular Weight	22 kDa
Observed molecular weight	24.31 kDa
Tag	N-His
Bioactivity	Testing in progress

Properties

Purity	> 80 % as determined by reducing SDS-PAGE.
Endotoxin	Please contact us for more information.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 80 % as determined by reducing SDS-PAGE.

Background

Methylates CpG residues. Preferentially methylates hemimethylated DNA. Associates with DNA replication sites in S

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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. Probably forms a corepressor complex required for activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) or other tumor-related genes in colorectal cancer (CRC) cells. Also required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing. Promotes tumor growth.