

Recombinant DNMT1 protein

Catalog No: 31404, 31800

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.8 µg/µl

Source: Human

Buffer Contents: Recombinant DNMT1 protein is supplied in 25 mM HEPES-NaOH pH 7.5, 500 mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5 mM TCEP.

Background: 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).

DNMT1 is the most abundant DNMT in somatic cells and shows a preference for methylating hemi-methylated DNA. It is considered to be a maintenance DNA methyltransferase that is important in the maintenance of specific patterns of methylation throughout cellular divisions. Methylation of mammalian DNA has long been recognized to play a major role in a number of cellular functions such as embryonic development, genetic imprinting, X chromosome inactivation and the control of gene expression. DNA methylation is generally associated with transcriptional repression.

Protein Details: Full length recombinant DNMT1 protein (accession number NP_001370.1) was expressed in Sf9 cells and contains an N-terminal 6xHis Tag and FLAG-Tag with a molecular weight of 188.2 kDa. The recombinant protein is >90% pure by SDS-PAGE.

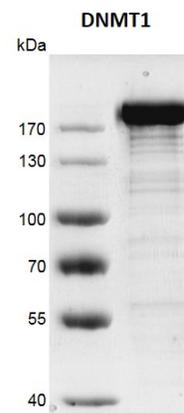
Application Notes: Recombinant DNMT1 protein is suitable for use in enzyme kinetics, inhibitor screening, and selectivity profiling.

DNMT Activity Assay Conditions: Assay was performed using DNMT Activity / Inhibition Assay, Active Motif Catalog No. 55006. The substrate, AdoMet and DNMT1 were incubated for 1 hour at 37°C. The whole reactions were developed for 4 min.

References:

This product was used in the following publications:
Cell Stem Cell. (2019). Feb. 7;24(2):318-327. PMID: 30554961.
Mol. Cell. (2018). Feb 1;69(3): 426-437. PMID: 29395064.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

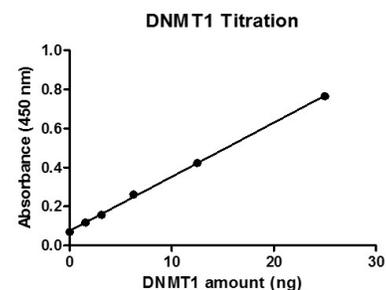


Recombinant DNMT1 protein gel.

Recombinant DNMT1 protein was run on an 8% SDS-PAGE gel and stained with Coomassie blue.

MW: 188.2 kDa

Purity: > 90%



Recombinant DNMT1 protein activity assay

Assay was performed using DNMT Activity / Inhibition Assay, Active Motif Catalog No. 55006. The substrate, AdoMet and DNMT1 were incubated for 1 hour at 37°C. The whole reactions were developed for 4 min.