

Recombinant DNMT3A protein

Catalog No: 31406, 31802

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.75 µg/µl

Source: Human

Buffer Contents: Recombinant DNMT3A protein is supplied in 25 mM Tris pH 8.0, 500 mM NaCl, 5% Glycerol, 0.04% Triton X-100, 1mM DTT and 0.2 mg/ml 3× Flag peptide.

Background: DNMT3A – (DNA (Cytosine-5-)-Methyltransferase 3) proteins such as DNMT3A (or DNMT 3A) 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. DNMT3A has been shown to be important in the regulation of specific patterns of DNA methylation. 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 control of gene expression. DNA methylation is generally associated with transcriptional repression.

Three families of DNMTs have been identified: DNMT1, DNMT2 and DNMT3. The DNMT3 family, containing two active methyltransferases, DNMT3A & DNMT3B, and one DNMT3-Like protein (DNMT3L), establishes the initial CpG methylation pattern de novo and shows the same propensity for methylating unmethylated duplex DNA as for hemi-methylated DNA. DNMT3A and DNMT3B are encoded by two distinct genes and are strongly expressed in embryonic stem cells. DNMT3A is ubiquitous in mammalian cells.

Protein Details: Recombinant DNMT3A protein includes human DNMT3A amino acids 214-912 (accession number NP_783328.1) was expressed in Sf9 cells and contains an N-terminal 6×His-Tag and FLAG-Tag with a molecular weight of 83.8 kDa. The recombinant protein is >95% pure by SDS-PAGE.

Application Notes: Recombinant DNMT3A 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, for 1 hour at 37°C.

References:

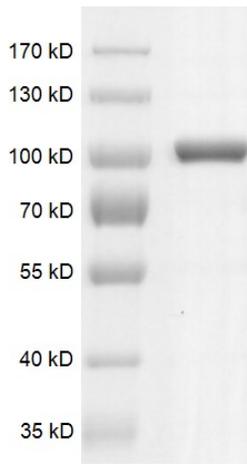
This product was used in the following publications:

Mol. Cell. (2018). Feb 1;69(3): 426-437. PMID: 29395064.

J. Clin. Invest. (2018). 128(6): 2376-2388. PMID: 29708513.

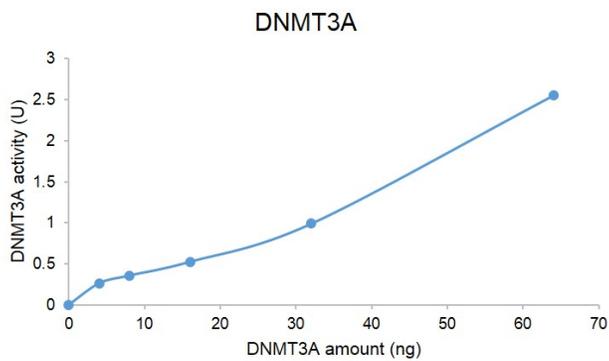
Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



Recombinant DNMT3A protein gel.

Recombinant DNMT3A protein was run on an 8% SDS-PAGE gel and stained with Coomassie blue.



Recombinant DNMT3A protein activity assay

Recombinant DNMT3A protein activity was measured using DNMT Activity / Inhibition Assay, Active Motif Catalog No. 55006, for 1 hour at 37°C