Recombinant Human DNMT3A, His-tagged

Cat. No. DNMT3A-390H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	The enzymes are His-tagged and overexpressed in Baculovirus. Lysates are produced by sonication in the presence of protease inhibitors and the proteins affinity purified over nickel-agarose columns (eluted with imidazole buffer).
Species	Human
Source	Insect Cells
Description	DNA methylation at CpG sites is an essential feature of gene regulation in higher eukarya. Methylation of cytosine residues is correlated with silenced chromatin and there is strong evidence that inappropriate methylation can disrupt normal growth control circuits. The process is mediated by enzymes called DNA methyltransferases (DNMTs) and a number of different DNMT isoforms have been identified, cloned and characterized. DNMT isoforms fall into two broad groupings: 1) Maintenance activities which preferentially act on hemi-methylated DNA, and 2) De novo activities which initiate methylation on a unmethylated DNA targets. DNMT1 is a maintenance enzyme that most likely targets replicative or nascent DNA. DNMT3 type isoforms appear to be de novo methyltransferases. Other DNMTs are now known to be active but have not been classified (DNMT2) while still other isoforms appear to possess key motifs of DNMT but lack sequences necessary for catalytic activity (DNMT3L).
Storage	The enzymes are shipped on Dry Ice. Detailed temperature stabilization time profiles have not been performed; however, store at -20oC to -70oC and avoid repeat freeze thawing cycles (it is best to aliquot the enzyme on first thaw). The enzymes are stable

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	for 6 months from date of shipping under these conditions.

GENE INFORMATION

Gene Name	DNMT3A DNA (cytosine-5-)-methyltransferase 3 alpha [Homo sapiens]
Official Symbol	DNMT3A
Synonyms	DNMT3A; DNA (cytosine-5-)-methyltransferase 3 alpha; DNA (cytosine-5)-methyltransferase 3A; DNA MTase HsaIIIA; DNA cytosine methyltransferase 3A2; DNMT3A2; M.HsaIIIA;
Gene ID	1788
mRNA Refseq	NM_022552
Protein Refseq	NP_072046
MIM	602769
UniProt ID	Q9Y6K1
Chromosome Location	2p23
Pathway	Cysteine and methionine metabolism, organism-specific biosystem; Cysteine and methionine metabolism, conserved biosystem; Metabolic pathways, organism-specific biosystem; Methionine degradation, organism-specific biosystem; Methionine degradation, conserved biosystem; One Carbon Metabolism, organism-specific biosystem; Validated targets of C-MYC transcriptional repression, organism-specific biosystem;

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Function	DNA (cytosine-5-)-methyltransferase activity; DNA (cytosine-5-)-methyltransferase activity, acting on CpG substrates; DNA binding; chromatin binding; metal ion binding; methyltransferase activity; protein binding; transferase activity; unmethylated CpG binding;

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