

Datasheet for ABIN2452167

**DNMT1 Protein**[2 Images](#)[2 Publications](#)[Go to Product page](#)

## Overview

Quantity:	300 U
Target:	DNMT1
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Biological Activity:	Active

## Product Details

Characteristics:	1 unit is defined as the amount of the enzyme that transfer 1 pmole of methyl group to poly dI-dC substrate during 30 minutes at 37 °C Specific activity: 17 units/ul
Purity:	> 95 % protein determined by SDS-PAGE (CBB staining)

## Target Details

Target:	DNMT1
Alternative Name:	DNA (Cytosine-5) Methyltransferase 1 ( <a href="#">DNMT1 Products</a> )
Background:	DNA methylation is significant for epigenetic regulation of gene expression, X chromosome inactivation, genomic imprinting, and development. Abberant methylation patterns are associated with certain human tumors and developmental abnormalities. In vertebrates, there are two types of DNA methyltransferase activities, de novo and maintenance types. Two DNA methyltransferases, Dnmt3a and Dnmt3b, are responsible for the creation of methylation patterns at an early stage of embryogenesis (de novo-type), while Dnmt1 is responsible for the maintenance of methylation patterns during replication. Dnmt1 favors to methylate the

## Target Details

hemimethylated DNA and preferentially methylates one strand of the double-stranded DNA during its processive methylation. This product, mouse Dnmt1 deleting the N-terminal 290 amino acid residues, was expressed using a baculovirus expression system and purified by Prof. S. Tajima and Dr. I. Suetake of Osaka University.

UniProt: [P13864](#)

Pathways: [SARS-CoV-2 Protein Interactome](#), [The Global Phosphorylation Landscape of SARS-CoV-2 Infection](#)

## Application Details

Application Notes: 1) In vitro metylation of cytosine residues in hemimethylated DNA at 5'. . . CG. . . 3'.  
2) Antigen for anti-mammalian Dnmt1 antibodies.

Comment: Incubate in 1 x Dnmt1 Reaction Buffer (20mM Tris-HCl, pH7.4, 0.5 mM EDTA, 0.2 mM DTT, 5% glycerol) with 10µM S-adenosylmethionine (SAM) at 37°C kD Reagents Supplied with Enzyme 116 97 66 45 206Dnmt1 Reaction Buffer (5 x) Dnmt1 (140kD) 20mM S-adenosylmethionine (SAM) which was purified by chromatography from the commercial reagent and dissolved in H2O Note: SAM is very unstable. Store at -80°C and use it within 6 months.

Restrictions: For Research Use only

## Handling

Format: Liquid

Concentration: 0.5 mg/mL

Buffer: 0.2 M NaCl, 10 mM HEPES ( pH 7.4), 50 % glycerol

Storage: -20 °C

## Publications

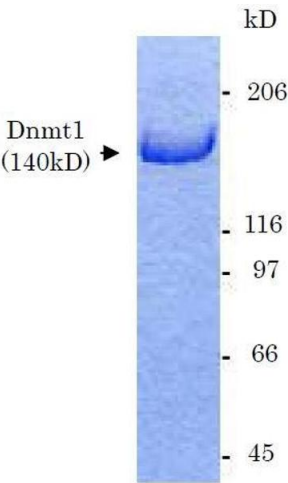
Product cited in: Takeshita, Suetake, Yamashita, Suga, Narita, Nakagawa, Tajima: "Structural insight into maintenance methylation by mouse DNA methyltransferase 1 (Dnmt1)." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 108, Issue 22, pp. 9055-9, (2011) ([PubMed](#)).

Vilkaitis, Suetake, Klimasauskas, Tajima: "Processive methylation of hemimethylated CpG sites by mouse Dnmt1 DNA methyltransferase." in: **The Journal of biological chemistry**, Vol. 280,

Images



**SDS-PAGE**  
**Image 1.**



**SDS-PAGE**  
**Image 2.**