

## Recombinant DNMT1 protein

**Catalog No:** 31335

**Expressed In:** Baculovirus

**Quantity:** 10 µg

**Concentration:** 0.26 µg/µl

**Source:** Human

**Buffer Contents:** 10 µg recombinant DNMT1 protein supplied in 40 mM Tris-HCl, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 0.04% Tween-20, and 20% glycerol.

**Background:** DNMT1 – DNA methyltransferase 1 (or DNMT 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:** Recombinant human DNMT1 was expressed in Sf9 cells via a baculovirus expression system as amino acids 2-1632 (accession number NM\_001130823) with an N-terminal GST-Tag. The molecular weight of the protein is 211 kDa.

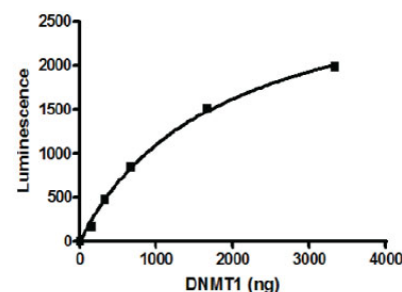
**Application Notes:** Recombinant DNMT1 is suitable for use in DNA methylation assays. This protein is useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

### References:

This product was used in the following publications:  
*J. Clin. Invest.* (2018). 128(6):2376-2388. PMID: 29708513.

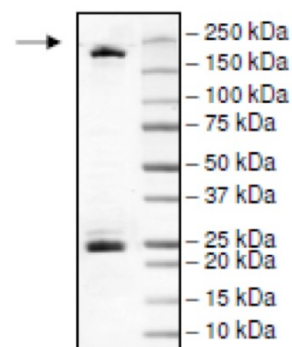
**Storage and Guarantee:** Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

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



### DNMT1 activity assay.

Recombinant DNMT1 activity was incubated with 400 µM S-adenosylmethionine (SAM) and DNA substrate, followed by detection with anti-5mC antibody and chemiluminescent detection.



### DNMT1 protein gel.

DNMT1 (2.8 µg) run on a 4-20% SDS-PAGE gel and stained with Coomassie Blue. Arrow indicates recombinant DNMT1.