

Human DNMT2 / TRDMT1 Protein (GST Tag)



Sino Biological
Biological Solution Specialist

Catalog Number: 11224-H09B

General Information

Gene Name Synonym:

DMNT2; DNMT2; MHSAILP; PUMET; RNMT1

Protein Construction:

A DNA sequence encoding the human TRDMT1 isoform a (NP_004403.1) (Met 1-Glu 391) was fused with the GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 94 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human TRDMT1/GST chimera consists of 616 amino acids and predicts a molecular mass of 71 kDa. It migrates as an approximately 60 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, 0.5mM GSH, 0.5mM PMSF, pH 8.0

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

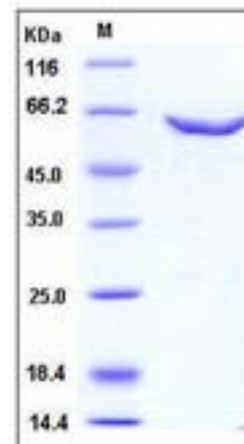
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

DNMT2, also known as tRNA (cytosine-5)-methyltransferase, DNA methyltransferase homolog HsaIP, and TRDMT1, is a member of the DNA methyltransferase family of enzymes. DNMT2 enzymes have been widely conserved during evolution and contain all of the signature motifs of DNA (cytosine-5)-methyltransferases. It contains all 10 sequence motifs that are conserved among m(5)C MTases, including the consensus S:-adenosyl-L-methionine-binding motifs and the active site ProCys dipeptide, and its structure is very similar to prokaryotic DNA methyltransferases. DNMT2 has close homologs in plants, insects and *Schizosaccharomyces pombe*, but no related sequence can be found in the genomes of *Saccharomyces cerevisiae* or *Caenorhabditis elegans*. While the biological function of DNMT2 is not yet known, the strong binding to DNA suggests that DNMT2 may mark specific sequences in the genome by binding to DNA through the specific target-recognizing motif. However, the DNA methyltransferase activity of these proteins is comparatively weak and their biochemical and functional properties remain enigmatic. Recent evidence now shows that Dnmt2 has a novel tRNA methyltransferase activity, raising the possibility that the biological roles of these proteins might be broader than previously thought.

References

1. Dong A, *et al.* (2001) Structure of human DNMT2, an enigmatic DNA methyltransferase homolog that displays denaturant-resistant binding to DNA. *Nucleic Acids Res.* 29(2): 439-48.
2. Hermann A, *et al.* (2003) The human Dnmt2 has residual DNA-(cytosine-C5) methyltransferase activity. *J Biol Chem.* 278(34): 31717-21.
3. Jeltsch A, *et al.* (2006) Two substrates are better than one: dual specificities for Dnmt2 methyltransferases. *Trends Biochem Sci.* 31(6): 306-8.

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