Data Sheet (Cat.No.TMPY-02420)

TargetMol

HEMK2 Protein, Human, Recombinant (His)

General Information

Synonyms:	N-6 adenine-specific DNA methyltransferase 1 (putative);HEMK2;MTQ2;N6AMT;PRED28; C21orf127;m.HsaHemK2P
Protein Construction:	A DNA sequence encoding the mature form of human N6AMT1 (AAH11554.1) (Met 1-Ser 186) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Human
Expression Host:	E. coli
Accession:	Q9Y5N5-2
Molecular Weight:	21.2 kDa (predicted); 23 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

N6AMT1 (N-6 Adenine-Specific DNA Methyltransferase 1) is a Protein Coding gene. 2 alternatively spliced human isoforms have been reported. This gene encodes an N(6)-adenine-specific DNA methyltransferase. It belongs to the eukaryotic/archaeal PrmC-related family. The encoded enzyme may be involved in the methylation of release factor I during translation termination. N6AMT1 has a significant role in determining susceptibility to arsenic

toxicity and carcinogenicity because of its specific activity in methylating MMAIII to DMA and other unknown mechanisms. N6AMT1 methylates the toxic inorganic arsenic (iAs) metabolite, monomethylarsonous acid (MMA), to the less toxic dimethylarsinic acid (DMA). N6AMT1 polymorphisms were associated with arsenic methylation in Andean women, independent of AS3MT.

Reference

Ren X,et al.(2011) Involvement of N-6 adenine-specific DNA methyltransferase 1 (N6AMT1) in arsenic biomethylation and its role in arsenic-induced toxicity. Environ Health Perspect. 119(6): 771-7.
Yang Z,et al.(2004) Structural characterization and comparative phylogenetic analysis of Escherichia coli HemK, a protein (N5)-glutamine methyltransferase. J Mol Biol. 340(4): 695-706.
Bujnicki JM,et al.(1999) Is the HemK family of putative S-adenosylmethionine-dependent methyltransferases a missing zeta subfamily of adenine methyltransferases? A hypothesis. IUBMB Life. 48(3): 247-9.