

NNMT Protein, Human (GST)

Cat. No.:	HY-P701318
Synonyms:	Nicotinamide N-methyltransferase; EC:2.1.1.1; NNMT
Species:	Human
Source:	E. coli
Accession:	P40261 (M1-L264)
Gene ID:	4837
Molecular Weight:	56.6 kDa

PROPERTIES

Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, 6% Trehalose, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>Nicotinamide N-Methyltransferase (NNMT) is responsible for catalyzing the N-methylation of nicotinamide, utilizing the universal methyl donor S-adenosyl-L-methionine to produce N1-methylnicotinamide and S-adenosyl-L-homocysteine, representing a prominent pathway for nicotinamide/vitamin B3 clearance. This enzymatic activity plays a central role in cellular methylation potential regulation by consuming S-adenosyl-L-methionine, thus limiting its availability for other methyltransferases. NNMT actively orchestrates genome-wide epigenetic and transcriptional changes through the hypomethylation of repressive chromatin marks, such as H3K27me₃, and contributes to the establishment of low levels of repressive histone marks in pluripotent embryonic stem cell pre-implantation state during development. Functionally, NNMT acts as a metabolic regulator impacting white adipose tissue energy expenditure, hepatic gluconeogenesis, and cholesterol biosynthesis. In white adipocytes, it regulates polyamine flux and controls NAD(+) levels through the salvage pathway. Additionally, NNMT, by producing N1-methylnicotinamide, influences protein acetylation in hepatocytes, repressing the ubiquitination and enhancing the stability of the SIRT1 deacetylase. Furthermore, NNMT exhibits versatility by N-methylating other pyridines structurally related to nicotinamide, suggesting a role in xenobiotic detoxification.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA