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NNMT Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP1024a

Specification

NNMT Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P40261

NNMT Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 4837

Other Names
Nicotinamide N-methyltransferase, NNMT

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1024a was selected from the N-term region of human NNMT. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

NNMT Antibody (N-term) Blocking Peptide - Protein Information

Name NNMT {ECO:0000303|PubMed:23455543}

Function
Catalyzes the N-methylation of nicotinamide using the universal methyl donor S-adenosyl-L-methionine to form N1- methylnicotinamide and S-adenosyl-L-homocysteine, a predominant nicotinamide/vitamin B3 clearance pathway (PubMed:8182091, PubMed:21823666, PubMed:23455543). Plays a central role in regulating cellular methylation potential, by consuming S-adenosyl-L-methionine and limiting its availability for other methyltransferases. Actively mediates genome-wide epigenetic and transcriptional changes through hypomethylation of repressive chromatin marks, such as H3K27me3 (PubMed:26571212, PubMed:23455543, PubMed:<a href="http://www.uniprot.org/citations/31043742"

target="_blank">31043742). In a developmental context, contributes to low levels of the repressive histone marks that characterize pluripotent embryonic stem cell pre-implantation state (PubMed:26571212). Acts as a metabolic regulator primarily on white adipose tissue energy expenditure as well as hepatic gluconeogenesis and cholesterol biosynthesis. In white adipocytes, regulates polyamine flux by consuming S-adenosyl-L-methionine which provides for propylamine group in polyamine biosynthesis, whereas by consuming nicotinamide controls NAD(+) levels through the salvage pathway (By similarity). Via its product N1-methylnicotinamide regulates protein acetylation in hepatocytes, by repressing the ubiquitination and increasing the stability of SIRT1 deacetylase (By similarity). Can also N-methylate other pyridines structurally related to nicotinamide and play a role in xenobiotic detoxification (PubMed:30044909).

Cellular Location
Cytoplasm.

Tissue Location
Predominantly expressed in the liver. A lower expression is seen in the kidney, lung, skeletal muscle, placenta and heart. Not detected in the brain or pancreas

NNMT Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

NNMT Antibody (N-term) Blocking Peptide - Images

NNMT Antibody (N-term) Blocking Peptide - Background

N-methylation is one method by which drug and other xenobiotic compounds are metabolized by the liver. NNMT is the protein responsible for this enzymatic activity, which uses S-adenosyl methionine as the methyl donor.

NNMT Antibody (N-term) Blocking Peptide - References

Xu,J., Thyroid 16 (2), 151-160 (2006)Roessler,M., Clin. Cancer Res. 11 (18), 6550-6557 (2005)Souto,J.C., Am. J. Hum. Genet. 76 (6), 925-933 (2005)