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NNMT Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11224

Specification

NNMT Antibody - Product Information

Application	**WB**
Primary Accession	P40261
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**29574**

NNMT Antibody - Additional Information

Gene ID 4837

Positive Control	**Western Blot: Recombinant protein**
Application & Usage	**Western blot: 1-4 µg/ml.**

Other Names
Nicotinamide N-methyltransferase

Target/Specificity
NNMT

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) of antibody in PBS pH 7.2 containing 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
NNMT Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

NNMT Antibody - 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:21823666, PubMed:23455543, PubMed:8182091). 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:23455543, PubMed:26571212, PubMed: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 - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NNMT Antibody - Images

NNMT Antibody - Background

N-methylation is one method by which drug and other xenobiotic compounds are metabolized by the liver. NNMT is an important cytosolic methyltransferase catalyzing the N-methylation of nicotinamide, pyridines and structural analogs, playing a crucial role in the biotransformation and

detoxification of many xenobiotic compounds. In the N-methylation process, NNMT uses S-adenosyl methionine as the methyl donor and nicotinamide as methyl acceptor. NNMT is mostly expressed in the liver, and a lower expression is seen in the kidney, lung, skeletal muscle, placenta and heart. It may also play an important role in regulating biological processes related to N-methyl nicotinamide such as anti-inflammatory, anti-thrombotic, vasoprotective, and gastroprotective properties. Increased NNMT activity was reported in many kinds of tumors. NNMT is a potential biomarker and therapeutic target in cancer diagnosis and treatment. NNMT serum levels have significance in the premature detection and in the management of patients with colorectal cancer.