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NNMT Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13775c

Product Information

Application	IHC-P, WB, E
Primary Accession	P40261
Other Accession	NP_006160.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	29574
Antigen Region	101-130

Additional Information

Gene ID	4837
Other Names	Nicotinamide N-methyltransferase, NNMT
Target/Specificity	This NNMT antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 101-130 amino acids from the Central region of human NNMT.
Dilution	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	NNMT Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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

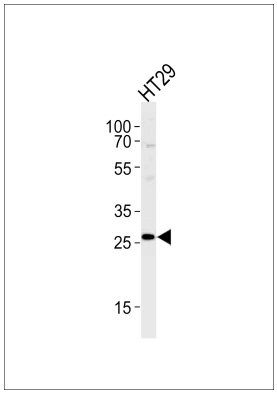
Background

N-methylation is one method by which drug and other xenobiotic compounds are metabolized by the liver. This gene encodes the protein responsible for this enzymatic activity which uses S-adenosyl methionine as the methyl donor. [provided by RefSeq].

References

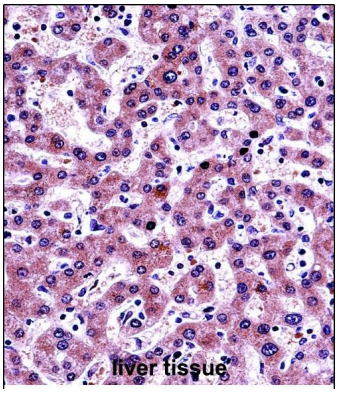
Giusti, B., et al. Thromb. Haemost. 104(2):231-242(2010)
Zhang, J., et al. J Zhejiang Univ Sci B 11(2):136-143(2010)
Emanuelli, M., et al. Histol. Histopathol. 25(1):15-20(2010)
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :
van Driel, L.M., et al. J. Nutr. 139(12):2315-2321(2009)

Images



NNMT Antibody (Center) (Cat. #AP13775c) western blot analysis in HT29 cell line lysates (35ug/lane).This demonstrates the NNMT antibody detected the NNMT protein (arrow).

NNMT Antibody (Center) (Cat. #AP13775c)immunohistochemistry analysis in formalin fixed and paraffin embedded human liver tissue followed



by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of NNMT Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.