Revision 1

Store at -20C

#24912

NNMT Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	28	Rabbit	#P40261	4837

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

NNMT Antibody recognizes endogenous levels of total NNMT protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu12 of human NNMT protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Nicotinamide N-methyltransferase (NNMT) is a metabolic enzyme expressed primarily in liver and adipose tissue. It catalyzes the transfer of a methyl group from S-Adenosyl-methionine (SAM) to nicotinamide, yielding 1-methylnicotinamide (MNAM) and S-Adenosyl-L-homocysteine (SAH) (1). This N-methylation enzymatic activity plays an important role in the biotransformation of drugs and xenobiotics, and also contributes to the metabolism of vitamin B3 (2). Knockdown of NNMT was shown to increase both SAM and NAD^+ levels in white adipose tissue of high-fat diet-fed mice, resulting in increased energy expenditure and protection against diet-induced obesity (3). In contrast, increased liver NNMT expression in humans and mice correlated with an improved metabolic profile, through MNAM-mediated SIRT1 protein stabilization (4). In cancer cells, overexpression of NNMT resulted in excess consumption of methyl units from SAM, leading to histone hypomethylation that substantially altered the epigenetic landscape (5). These and other research studies have suggested that NNMT expression may have utility as a diagnostic and prognostic biomarker in cancer (6-8).

Background References

1. Aksoy, S. et al. (1994) *J Biol Chem* 269, 14835-40.
2. Pissios, P. (2017) *Trends Endocrinol Metab* 28, 340-53.
3. Kraus, D. et al. (2014) *Nature* 508, 258-62.
4. Hong, S. et al. (2015) *Nat Med* 21, 887-94.
5. Ulanovskaya, O.A. et al. (2013) *Nat Chem Biol* 9, 300-6.
6. Xu, Y. et al. (2016) *Oncotarget* 7, 19975-81.
7. Mascitti, M. et al. (2019) *Melanoma Res* 29, 151-6.
8. Ganzetti, G. et al. (2018) *Melanoma Res* 28, 82-8.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

force or effect.

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