abcam

ab119758

Anti-NNMT antibody [OTI3D8]

Anti-NNMT antibody [OTI3D8] (ab119758) is a mouse monoclonal antibody detecting NNMT in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse,**.

- KO validated for confirmed specificity
- Over 10 publications

KO Validated

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human Nicotinamide N-methyltransferase. Database link P40261
Clone number	OTI3D8
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab119758 is purified from TCS by affinity chromatography.

Reactivity data

WB

Tested

Species	Recombinant fragment
Dilution info	1/500 - 1/2000
Notes	-

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	-

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/150
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Recombinant fragment
Dilution info	1/100
Notes	-

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

Target data

See full target information Nicotinamide N-methyltransferase

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-NNMT antibody [OTI3D8] (ab119758) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, samples.

What is the molecular weight of NNMT?
Anti-NNMT [OTI3D8] (ab119758) specifically detects a band for NNMT (UniProt: P40261) at a molecular weight of 30kDa.

Trusted by the scientific community
Anti-NNMT [OTI3D8] (ab119758) was first used in a scientific publication in 2011 and has been cited over 10 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-NNMT antibody [OTI3D8] (ab119758) has been confirmed by Western blot testing in NNMT Knockout HeLa cell line, ab265700.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The NNMT protein also known as Nicotinamide N-methyltransferase acts by catalyzing the methylation of nicotinamide using S-adenosylmethionine as a methyl donor. This enzyme has a mass of around 29 kDa and is expressed in various tissues including liver adipose tissue and certain cancer cells. The NNMT gene provides instructions for creating the protein that plays significant roles in metabolic processes and cellular homeostasis.
Biological function summary	NNMT impacts cell energy balance and gene expression regulation by influencing the levels of nicotinamide and methionine metabolites. This enzyme does not typically form part of a complex acting more so as an individual regulator of methylation reactions affecting cellular metabolism. Researchers find interest in NNMT for its role in modulating cellular growth and proliferation forming a link to both normal cellular functions and pathological conditions like cancer.
Pathways	NNMT has a significance in NAD+ metabolism and methionine salvage pathways. These pathways are essential in maintaining redox homeostasis and proper methylation status in cells. NNMT through its enzymatic activity interacts with SAM (S-adenosyl methionine) closely relating its function to methylation processes that involve other proteins such as SIRTs (Sirtuins) and NAMPT (Nicotinamide phosphoribosyltransferase) within these metabolic pathways.
Associated diseases and disorders	NNMT shows relevance in cancer and obesity-related complications. The protein's upregulation in cancer types like breast and colorectal cancers links it to tumor development and progression. In obesity NNMT's involvement in adipose tissue might contribute to metabolic dysregulation. The enzyme also interconnects with proteins like insulin receptors and adiponectin highlighting its potential role in metabolic diseases and making it an interesting target for therapeutic interventions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

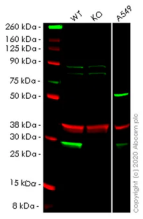
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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10 product images



Western blot - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Western blot staining using mouse Anti-NNMT antibody

Lanes 1-3: Merged signal (red and green). Green - ab119758 observed at 30 kDa. Red - loading control ab181602 observed at 36 kDa.
ab119758 Anti-NNMT antibody [OTI3D8] was shown to specifically react with NNMT in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265700 (knockout cell lysate ab258537) was used. Wild-type and NNMT knockout samples were subjected to SDS-PAGE. ab119758 and Anti-GAPDH antibody[EPR16891] - Loading Control (ab181602) were incubated at room temperature for 2.5 hours at 1 in 500 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) and Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-NNMT antibody [OTI3D8] (ab119758) at 1/500 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human NNMT knockout HeLa cell lysate (ab258537) at 20 µg

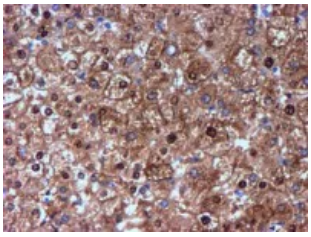
Lane 3:
A549 cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) at 1/10000 dilution

Predicted band size: 30 kDa

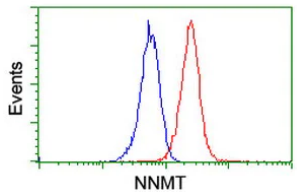
Observed band size: 30 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NNMT antibody

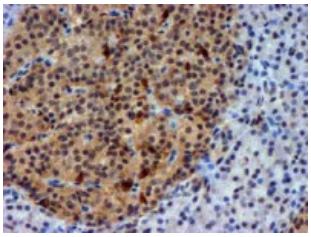
ab119758 at 1/150 dilution, staining NNMT in paraffin-embedded Human liver tissue by Immunohistochemistry.



Flow Cytometry (Intracellular) - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Flow Cytometry (Intracellular) staining using mouse Anti-NNMT antibody

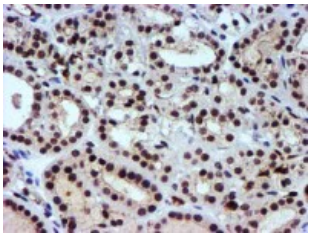
ab119758 at 1/100 dilution staining NNMT in Jurkat cells by Flow Cytometry (Intracellular) (Red) compared to a nonspecific negative control antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NNMT antibody

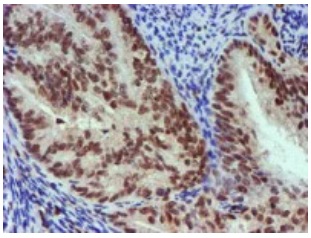
ab119758 at 1/150 dilution, staining NNMT in paraffin-embedded Human pancreas tissue by Immunohistochemistry.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NNMT antibody

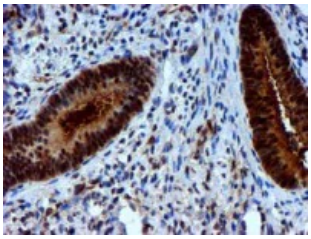
ab119758 at 1/150 dilution, staining NNMT in paraffin-embedded Human thyroid carcinoma tissue by Immunohistochemistry.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNMT antibody [OTI3D8] (ab119758)

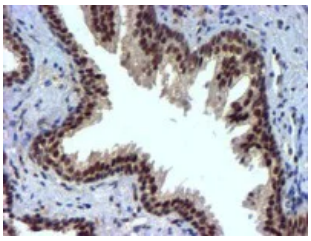
NNMT Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NNMT antibody

ab119758 at 1/150 dilution, staining NNMT in paraffin-embedded Human endometrium adenocarcinoma tissue by Immunohistochemistry.



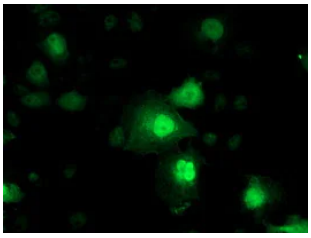
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNMT antibody [OTI3D8] (ab119758)

ab119758 at 1/150 dilution, staining NNMT in paraffin-embedded Human endometrium tissue by Immunohistochemistry.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNMT antibody [OTI3D8] (ab119758)

ab119758 at 1/150 dilution, staining NNMT in paraffin-embedded Human prostate tissue by Immunohistochemistry.



Immunocytochemistry/ Immunofluorescence - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Immunocytochemistry/ Immunofluorescence staining using mouse Anti-NNMT antibody

ab119758, at 1/100 dilution staining NNMT, in COS7 cells transiently transfected by pCMV6-ENTRY NNMT, by Immunofluorescence

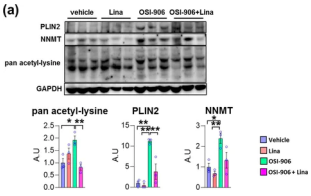


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Western blot - Anti-NNMT antibody [OTI3D8] (ab119758)

NNMT Western blot staining using mouse Anti-NNMT antibody

NNMT western blot using anti-NNMT antibody [OTI3D8] ab119758. Publication image and figure legend from Okuyama, T., Shirakawa, J., et al., 2020, Int J Mol Sci, PubMed 33105604.

ab119758 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab119758 please see the product overview.

Linagliptin reversed the increased expression of acetylated lysine, perilipin-2, and nicotinamide N-methyltransferase (NNMT) in OSI-906-treated liver. (a) Immunoblot for pan acetyl-lysine, perilipin-2, and NNMT in the liver (n = 3 per group). Densitometry was plotted in lower graphs. (b) Hepatic gene expressions of Cyp2b10, Plin2, and Nnmt on day 7. Data represent the mean ± SEM. * $p < 0.05$, ** $p < 0.01$ (n = 4–5 per group) by ANOVA with an additional Tukey–Kramer post-hoc test.

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