abcam

ab110352

Anti-NNT antibody [8B4BB10]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	8B4BB10
Purification technique	Proprietary technique
Specificity	Several customers have found that this antibody may not work well for mouse and rat samples.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. Purity >95% by SDS-PAGE.

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	1/100
Notes	-

Expected

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

IP

Tested

Species	Mouse, Rat, Human, Cow
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Human

Dilution info	0.5 µg/mL
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

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

Target data

See full target information NNT

Function	The transhydrogenation between NADH and NADP is coupled to respiration and ATP hydrolysis and functions as a proton pump across the membrane (By similarity). May play a role in reactive oxygen species (ROS) detoxification in the adrenal gland (PubMed:22634753).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	Nicotinamide nucleotide transhydrogenase (NNT) is an enzyme that plays an important role in cellular redox balance by catalyzing the hydride transfer between NADH and NADP+ across the inner mitochondrial membrane. Also known as NNT in common scientific references the enzyme has a mass of approximately 109 kDa. NNT is primarily expressed in tissues with high metabolic demand such as the liver heart and adrenal glands. Its high expression in the mitochondria reflects its essential role in maintaining efficient energy homeostasis.
Biological function summary	NNT regulates the conversion of NADP+ to NADPH a form that serves as an important reducing agent in cellular mechanisms. The enzyme does not function alone but integrates into the mitochondrial membrane working as a part of a complex with other mitochondrial proteins like ATP synthase and cytochrome oxidase. This role is important for antioxidant defense as NADPH is utilized in pathways that mitigate reactive oxygen species maintaining cellular integrity.
Pathways	NNT is a central component in energy metabolism and detoxification processes. It is intricately involved in the pentose phosphate pathway where it helps generate reducing equivalents in the form of NADPH. Additionally NNT is linked to the oxidative phosphorylation pathway ensuring efficient ATP production. The enzyme's activity is closely associated with proteins such as glutathione reductase and thioredoxin which rely on the reducing power of NADPH provided by NNT for their antioxidant functions.
Associated diseases and disorders	NNT mutations have been associated with familial glucocorticoid deficiency and metabolic disorders which highlight its importance in endocrine and energy balance. Altered NNT activity has been observed in various cases of hypertension and heart failure. The enzyme's interrelationship with proteins like cortisol which is important in adrenal function and insulin in relation to metabolic processes and regulation indicate its broad influence in both energy homeostasis and redox balance.

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

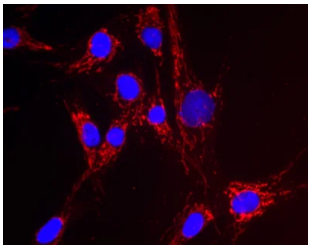
We do not recommend this combination. It is not covered by our product promise.

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.

Full details and terms and conditions can be found here:
Terms & Conditions.

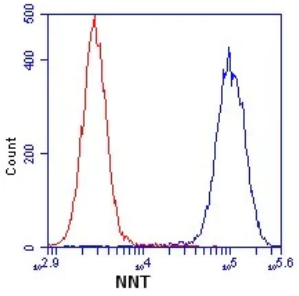
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-NNT antibody [8B4BB10] (ab110352)

NNT Immunocytochemistry/ Immunofluorescence staining using mouse Anti-NNT antibody

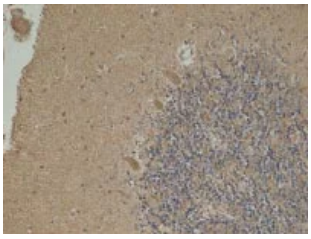
Mitochondrial localization of NNT in cultured, normal Human skin fibroblasts (strain HDFn) labeled with anti NNT (ab110352) as the primary antibody and an AlexaFluor® 594 goat anti-mouse IgG1 secondary antibody.



Flow Cytometry - Anti-NNT antibody [8B4BB10] (ab110352)

NNT Flow Cytometry staining using mouse Anti-NNT antibody

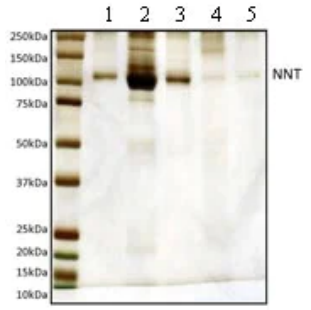
HL-60 cells were stained with 1 µg/mL NNT antibody (ab110352) (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NNT antibody [8B4BB10] (ab110352)

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

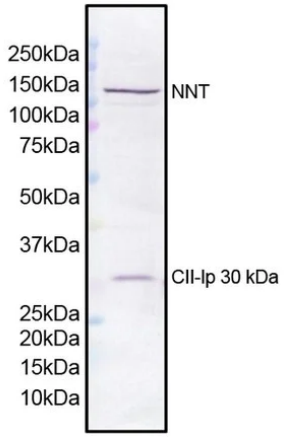
NNT immunohistochemistry in Human cerebellum visualized with ab110352 at 1/100. NNT immunoactivity is most intense in neuronal cell bodies, most notably in the large Purkinje cells.



Immunoprecipitation - Anti-NNT antibody [8B4BB10] (ab110352)

Nicotinamide nucleotide transhydrogenase (NNT) immunocaptured from Human liver mitochondria (lane 1), bovine heart mitochondria (lane 2), rat liver mitochondria (lane 3), mouse liver mitochondria (lane 4), and HepG2 cells (lane 5), using ab110352.
All lanes:
Immunoprecipitation - Anti-NNT antibody [8B4BB10] (ab110352)

Predicted band size: 114 kDa



Western blot - Anti-NNT antibody [8B4BB10] (ab110352)

NNT Western blot staining of HepG2 whole cell lysate using mouse Anti-NNT antibody

anti-Complex II 30kDa subunit has also been labeled as a control.
All lanes:
Western blot - Anti-NNT antibody [8B4BB10] (ab110352) at 0.5 µg/mL

All lanes:
HepG2 whole cell lysate

Predicted band size: 114 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.