NNT (B-3): sc-390236

**BACKGROUND**

The process of cellular respiration is carried out by integral inner mitochondrial membrane proteins that facilitate the harnessing of energy released by the oxidation of NADH. NNT (nicotinamide nucleotide transhydrogenase), also known as mitochondrial NAD/P transhydrogenase or pyridine nucleotide transhydrogenase, is a 1,086 amino acid multi-pass mitochondrial inner membrane protein. NNT is a homodimer with an N-terminal section belonging to the AaADH/PNT family and a C-terminal section belonging to the PNT β subunit family. NNT catalyzes the transfer of a hydride ion from NADH to NADP⁺ and functions as a mitochondrial inner membrane proton pump. Using the energy of the proton gradient created by the electron transport chain, NNT produces the oxidation of NADH. NNT (nicotinamide nucleotide transhydrogenase), also known as mitochondrial NAD(P) transhydrogenase or pyridine nucleotide dihydrolase, is a 1,086-amino acid multi-pass mitochondrial inner membrane protein. NNT functions as a mitochondrial inner membrane proton pump. Using the energy of the proton gradient created by the electron transport chain, NNT produces high concentrations of NADPH, which is used in free radical detoxification and biosynthesis.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: NNT (human) mapping to 5p12; Nnt (mouse) mapping to 13 D2.3.

**SOURCE**

NNT (B-3) is a mouse monoclonal antibody raised against amino acids 787-1086 mapping at the C-terminus of NNT of human origin.

**PRODUCT**

Each vial contains 200 µg IgG₂κ, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**STORAGE**

Store at 4°C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

**APPLICATIONS**

NNT (B-3) is recommended for detection of NNT of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NNT (B-3) is also recommended for detection of NNT in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for NNT siRNA (h): sc-91738, NNT siRNA (m): sc-150013, NNT shRNA Plasmid (h): sc-91738-SH, NNT shRNA Plasmid (m): sc-150013-SH, NNT shRNA (h) Lentiviral Particles: sc-91738-V and NNT shRNA (m) Lentiviral Particles: sc-150013-V.

**Molecular Weight of NNT**: 114 kDa.

Positive Controls: BC3H1 cell lysate: sc-2299, Hep G2 cell lysate: sc-2227 or Caki-1 cell lysate: sc-2224.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

NNT (B-3): sc-390236. Western blot analysis of NNT expression in Hep G2 (A), Caki-1 (B), A-673 (C), BC3H1 (D), L6 (E) and KNRK (F) whole cell lysates.

NNT (B-3): sc-390236. Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (B).

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

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