**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 AladH/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 high concentrations of NADPH, which is used in free radical detoxification and biosynthesis.

**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 IgG₂ kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

NNT (B-3) is available conjugated to agarose (sc-390236 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390236 HRP), 200 µg/ml, for WB, IHCHIP and ELISA; to either phycocerythrin (sc-390236 PE), fluorescein (sc-390236 FITC), Alexa Fluor® 488 (sc-390236 AF488), Alexa Fluor® 546 (sc-390236 AF546), Alexa Fluor® 594 (sc-390236 AF594) or Alexa Fluor® 647 (sc-390236 AF647), 200 µg/ml, for WB (RGB), IF, IHCHIP and FCM; and to either Alexa Fluor® 680 (sc-390236 AF680) or Alexa Fluor® 790 (sc-390236 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**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 1:50, 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-IgGx BP-HRP: sc-516102 or m-IgGx 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). 3) Immunofluorescence: use m-IgGx BP-FITC: sc-516140 or m-IgGx BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGx BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

**DATA**

![Data Image]

**SELECT PRODUCT CITATIONS**


**STORAGE**

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

**RESEARCH USE**

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

**PROTOCOLS**

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

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