

TECHNICAL DATA SHEET**Catalog # MS701****NNT monoclonal antibody**

Rev.2

LOT #:

COMPONENTS:	100 µg monoclonal antibody
APPLICATIONS:	Western blotting, Immunocytochemistry, Immunohistochemistry, In-Cell ELISA
CLONE ID OF MONOCLONAL ANTIBODY (mAb):	8B4BB10
SPECIES CROSS-REACTIVITY:	human, rat, mouse, bovine
HOST SPECIES AND ISOTYPE:	Mouse IgG1, κ
IMMUNOGEN:	human heart mitochondria
CONCENTRATION:	1 mg/mL in HEPES-Buffered Saline (HBS) with 0.02% azide as a preservative.
SUGGESTED WORKING CONCENTRATION:	0.5 µg/mL for Western blotting, 5 µg/mL for Immunocytochemistry
mAb PURITY:	Near homogeneity as judged by SDS-PAGE. The antibody was produced <i>in vitro</i> using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.
STORAGE CONDITIONS:	Store at 4°C. Do not freeze.
COUNTRY OF ORIGIN:	USA

BACKGROUND:

Nicotinamide nucleotide transhydrogenase (NNT) is a mitochondrial inner membrane protein catalyzing the interconversion of NADH and NADPH within the matrix space of the organelle. It couples this reaction to proton translocation across the inner membrane. In the presence of an electrochemical proton gradient the production of NADPH is strongly favored. NADPH is required in the mitochondrial matrix to keep the ratio of GSH:GSSG high via the NADPH-dependent glutathione reductase. Thus NNT has an important role to play in defenses against oxidative stress produced by the organelle.

A novel, unexpected role of NNT is in insulin secretion. The absence of NNT prevents glucose from closing the K⁺ATP channel and from opening the Ca²⁺ channel in pancreatic beta cells. These defective beta cells also show a profound increase in ROS.

Note: This product is for research purposes only. It is not to be used in humans or for diagnostic purposes.

WARRANTY – MitoSciences Inc warrants that products will perform as indicated in the published Technical Data Sheet for 6 months from date of purchase when stored according to specifications and when used consistent with recommended protocols. If you experience results which materially differ from those described, send evidence of the non-performing product for replacement of the original product purchased or a credit toward any other of the company's products or services.