

MT-ND3 Antibody / NADH-ubiquinone oxidoreductase chain 3 Antibody (FY13568)

Catalog No.	Formulation	Size
FY13568	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P03897
Applications	Western Blot : 0.5-1ug/ml
Limitations	Intended solely for research purposes, this MT-ND3 Antibody / NADH-ubiquinone oxidoreductase chain 3 Antibody is not for clinical use.

MT-ND3 Antibody by WB in human 293T. Western blot analysis using NADH-ubiquinone oxidoreductase chain 3 Antibody detects an immunoreactive band near 13 kDa in human 293T (lane 1); human K562 (lane 2); human PC-3 (lane 3) whole-cell lysates; mouse heart tissue (lane 4). The calculated molecular weight is approximately 13 kDa. Reduced lysates containing 30 ug protein per lane were resolved by 12% SDS-PAGE and transferred to nitrocellulose. Following blocking with 5% nonfat milk, the membrane was incubated with primary antibody at 0.5 ug/mL overnight at 4°C and developed with an HRP-conjugated secondary antibody and chemiluminescence.

Description

MT-ND3 Antibody / NADH-ubiquinone oxidoreductase chain 3 Antibody detects MT-ND3, a mitochondrial DNA-encoded subunit of NADH:ubiquinone oxidoreductase, commonly called respiratory-chain complex I. Complex I is a large multisubunit enzyme embedded in the inner mitochondrial membrane. It transfers electrons from NADH to ubiquinone and couples this reaction to proton translocation, helping establish the electrochemical gradient used for ATP synthesis. MT-ND3 is one of the hydrophobic membrane-arm subunits encoded by the mitochondrial genome and is integrated into the assembled complex rather than acting as a soluble enzyme.

Complex I contains numerous nuclear-encoded accessory and core proteins in addition to its mitochondrially encoded

subunits. The membrane arm mediates proton-pumping processes that are coupled to electron transfer through the peripheral arm. MT-ND3 contributes to the membrane architecture and conformational changes required for the complex to operate. A conserved cysteine in the ND3 subunit has received attention because its accessibility can change during transitions between active and deactive states of complex I. This structural behavior provides insight into how respiratory activity responds to changing metabolic conditions. The NADH-ubiquinone oxidoreductase chain 3 Antibody designation refers to this same molecular target.

Variants affecting MT-ND3 can impair complex I function and have been associated with mitochondrial disease, including neurological manifestations in some affected individuals. Interpretation of mitochondrial variants requires attention to heteroplasmy, tissue distribution, and the wider mitochondrial genetic background. MT-ND3 should also be distinguished from the similarly named nuclear genes encoding other NADH dehydrogenase components. NSJ Bioreagents includes MT-ND3 among its targets associated with mitochondrial electron transport and respiratory-chain organization. An MT-ND3 Antibody provides a way to investigate the biological role of MT-ND3 and the molecular processes associated with this target.

Explore related research targets in our [Metabolism Antibody / Metabolism Antibodies](#) collection.

Application Notes

The appropriate working dilution of the MT-ND3 Antibody / NADH-ubiquinone oxidoreductase chain 3 Antibody should be optimized by the end user.

Immunogen

The MT-ND3 Antibody was generated using a synthetic peptide corresponding to a sequence at the C-terminus of human ND3/MT-ND3.

Storage

Following reconstitution, the MT-ND3 Antibody can be kept at 4°C for one month. Aliquot for extended storage at -20°C for up to six months, avoiding repeated freezing and thawing.

Alternate Names

MT-ND3 antibody, NADH-ubiquinone oxidoreductase chain 3 antibody, mitochondrially encoded NADH dehydrogenase 3 antibody, MT ND3 antibody, MTND3 antibody, NADH dehydrogenase subunit 3 antibody, NADH3 antibody, ND3 antibody