

MT-ND3 Polyclonal Antibody / NADH-ubiquinone oxidoreductase chain 3 Polyclonal Antibody (FY13569)

Catalog No.	Formulation	Size
FY13569	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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Species Reactivity	Mouse, Rat
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	P03899
Applications	Western Blot : 0.5-1ug/ml
Limitations	This MT-ND3 Polyclonal Antibody / NADH-ubiquinone oxidoreductase chain 3 Polyclonal Antibody is provided for laboratory research use only.

MT-ND3 Polyclonal Antibody by WB in rat heart. Western blot analysis using NADH-ubiquinone oxidoreductase chain 3 Polyclonal Antibody detects an immunoreactive band near 15 kDa in rat heart (lane 1); mouse stomach (lane 2); mouse small intestine (lane 3); mouse heart (lane 4) tissue lysates. 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 Polyclonal Antibody recognizes MT-ND3, a mitochondrially encoded protein that forms part of NADH oxidoreductase, also known as respiratory chain complex I. The MT-ND3 gene is located in mitochondrial DNA and encodes a small, highly hydrophobic protein embedded in the inner mitochondrial membrane. Complex I is the first major enzyme of the mitochondrial electron transport chain, transferring electrons from NADH to ubiquinone while contributing to the proton gradient that drives ATP synthesis.

MT-ND3 is one of seven mitochondrially encoded subunits of complex I, alongside MT-ND1, MT-ND2, MT-ND4, MT-ND4L, MT-ND5, and MT-ND6. These proteins associate with numerous nuclear-encoded subunits to form a large

multisubunit enzyme. NADH-ubiquinone oxidoreductase chain 3 contributes to the membrane arm of complex I, where coordinated conformational changes couple electron transfer to proton translocation. The resulting electrochemical gradient across the inner mitochondrial membrane supplies the energy required by ATP synthase for oxidative phosphorylation.

A particularly important feature of MT-ND3 is its involvement in the active-to-deactive transition of complex I. During prolonged inactivity, complex I can adopt a deactive conformation in which cysteine 39 of the ND3 subunit becomes more accessible to chemical modification. This conformational change has been extensively investigated in mitochondrial ischemia and reperfusion injury. Modification of this cysteine can influence complex I reactivation and the production of reactive oxygen species during the restoration of oxygen availability.

Pathogenic variants in MT-ND3 have been associated with mitochondrial complex I deficiency and neurological disorders, including Leigh syndrome and other mitochondrial encephalopathies. Such variants may impair respiratory chain activity, compromise ATP production, and contribute to oxidative stress. Disease severity can depend on the specific mutation, mitochondrial heteroplasmy, and the energy requirements of affected tissues. NSJ Bioreagents provides this NADH-ubiquinone oxidoreductase chain 3 Polyclonal Antibody as part of its mitochondrial protein antibody selection. An MT-ND3 Polyclonal Antibody provides a means of investigating the biological significance of this mitochondrial respiratory chain subunit.

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

Application Notes

Investigators should determine the optimal dilution of the MT-ND3 Polyclonal Antibody / NADH-ubiquinone oxidoreductase chain 3 Polyclonal Antibody empirically for their experimental conditions.

Immunogen

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

Storage

Store the reconstituted MT-ND3 Polyclonal Antibody at 4oC for up to one month. For long-term storage, divide into aliquots and keep at -20oC for up to six months. Avoid repeated freeze-thaw cycles.

Alternate Names

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