abcam

ab230509

Anti-MT-ND5 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Full Length Protein corresponding to Human MT-ND5 conjugated to Keyhole Limpet Haemocyanin. Database link P03915
Purification technique	Affinity purification Protein A
Concentration	2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information MT-ND5

Function	Core subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (Complex I) which catalyzes electron transfer from NADH through the respiratory chain, using ubiquinone as an electron acceptor (PubMed:15250827). Essential for the catalytic activity and assembly of complex I (PubMed:15250827).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MT-ND5 also known as NADH-ubiquinone oxidoreductase chain 5 is a subunit of mitochondrial complex I found in the inner mitochondrial membrane. This protein weighing approximately 74 kDa plays a central role in the electron transport chain facilitating the transfer of electrons from NADH to ubiquinone. Expression of MT-ND5 occurs ubiquitously in tissues with high energy demands such as the heart brain and skeletal muscle where efficient ATP production is essential.
Biological function summary	MT-ND5 functions as an integral component of mitochondrial complex I which is the first enzyme complex in the electron transport chain. By participating in this complex MT-ND5 contributes to the generation of a proton gradient across the inner mitochondrial membrane driving ATP synthesis through oxidative phosphorylation. Malfunction of MT-ND5 impairs energy production which can lead to a cascade of cellular energy deficiencies given its role within the complex.
Pathways	MT-ND5 associates with the oxidative phosphorylation pathway. It is important for maintaining aerobic energy production by linking NADH oxidation with ubiquinone reduction. Other proteins like MT-ND1 and MT-ND4L also participate in electron transport chain pathways working alongside MT-ND5 to ensure effective electron transfer and mitochondrial respiration. Its function within these pathways highlights its importance in metabolic regulation.
Associated diseases and disorders	MT-ND5 mutations have associations with mitochondrial disorders such as Leigh syndrome and mitochondrial encephalomyopathy with lactic acidosis and stroke-like episodes (MELAS). Defective MT-ND5 affects the electron transport chain leading to energy metabolism disruption in affected tissues. These disorders often involve other mitochondrial proteins such as MT-ND1 where combined mutations further exacerbate the dysfunction of mitochondrial capacity and highlight the profound impact on human health.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

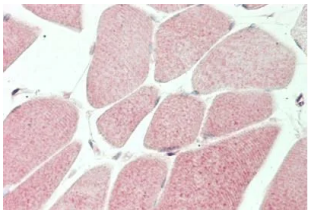
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

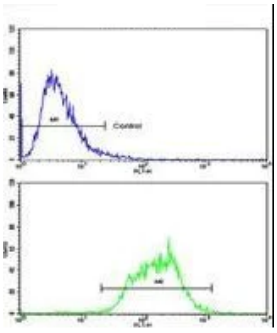
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MT-ND5 antibody (ab230509)

MT-ND5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MT-ND5 antibody

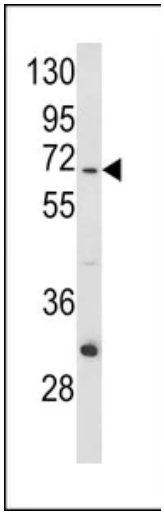
Formalin-fixed, paraffin-embedded human skeletal tissue stained for MT-ND5 using ab230509 at 1/50 dilution in immunhistochemical analysis.



Flow Cytometry (Intracellular) - Anti-MT-ND5 antibody (ab230509)

MT-ND5 Flow Cytometry (Intracellular) staining using rabbit Anti-MT-ND5 antibody

Intracellular flow cytometric analysis of CRRF-CEM (human T cell lymphoblast cell line) labelling MT-ND5 using ab230509 at 1/10 dilution (bottom histogram) compared to the negetive control (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Western blot - Anti-MT-ND5 antibody (ab230509)

All lanes:
Western blot - Anti-MT-ND5 antibody (ab230509) at 1/1000 dilution

All lanes:
CRRF-CEM (Human T cell lymphoblast cell line) whole cell lysate at 1/35 dilution

Predicted band size: 67 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.