abcam

ab110243

Anti-NDUFB4 antibody [17G3D9E12]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	17G3D9E12
Purification technique	Proprietary technique
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Near homogeneity as judged by SDS-PAGE (>95%). The antibody was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL

Notes	(heat-induced antigen-retrieval improves signal). ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Cow, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	0.5 µg/mL
Notes	-

Species	Cow
Dilution info	0.5 µg/mL
Notes	-

Species	Rat
Dilution info	0.5 µg/mL
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Perform heat mediated antigen retrieval via the pressure cooker method before commencing with staining protocol.

Expected

Species	Cow, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	5-15 µg/mL
Notes	Perform heat mediated antigen retrieval via the pressure cooker method before commencing with staining protocol.

Expected

Species	Cow, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information NDUFB4

Function	Accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (Complex I), that is believed not to be involved in catalysis. Complex I functions in the transfer of electrons from NADH to the respiratory chain. The immediate electron acceptor for the enzyme is believed to be ubiquinone.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	NDUFB4 also known as NADH: ubiquinone oxidoreductase subunit B4 plays a role in the mitochondrial respiratory chain complex I. Weighing approximately 15 kDa NDUFB4 is expressed in mitochondria across various cell types. It couples electron transfer from NADH to ubiquinone thereby contributing to energy production process in cells. NDUFB4 is important in maintaining mitochondrial functionality due to its role in the electron transport chain.
Biological function summary	NADH: ubiquinone oxidoreductase subunit B4 is part of the NADH dehydrogenase complex I. This complex is involved in the initial step of the mitochondrial electron transport chain. NDUFB4 supports the bioenergetic functions of cells by facilitating redox reactions. It also helps establish the electrochemical gradient needed for ATP synthesis. This protein interacts synergistically with other subunits in complex I to ensure efficient energy conversion.
Pathways	NADH dehydrogenase complex I which includes NDUFB4 is central in oxidative phosphorylation. This process supports energy production by converting NADH and FADH2 into ATP. NDUFB4 is integrally linked with proteins like NDUFS2 and NDUFV1 within this pathway ensuring electron transport is seamless. Complex I contributes to metabolic processes like the TCA cycle by feeding the mitochondria with necessary energy intermediates.
Associated diseases and disorders	Malfunction of NDUFB4 in complex I links to mitochondrial diseases such as Leigh syndrome. This syndrome affects central nervous system development. Mitochondrial encephalopathies are another group where NDUFB4 involvement is observed. In these conditions proteins like NDUFA1 and mitochondrial DNA mutations can manifest similar neurodegenerative symptoms due to impaired oxidative phosphorylation. Therefore understanding NDUFB4's function helps in identifying therapeutic interventions for these disorders.

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.

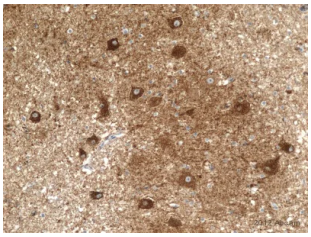
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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4 product images

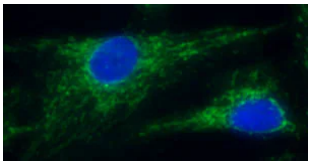


This image is courtesy of Philippa Hepplewhite, University of Newcastle, UK

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NDUFB4 antibody [17G3D9E12] (ab110243)

NDUFB4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NDUFB4 antibody

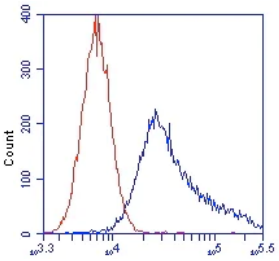
Immunohistochemistical detection of Anti-NDUFB4 antibody [17G3D9E12] (ab110243; 1/100, incubated for 1hr) on formaldehyde fixed human cerebellum sections. Antigen retrieval step: Heat mediated. Permeabilization: No. ab110243 was used to investigate respiratory deficiency in 5µm cut sections of FFPE human cerebellum. Sections were cut and mounted on to glass adhesion slides for staining. The antibody stained specifically, identifying both normal neurons as well as those exhibiting respiratory deficiency. Non-specific background staining was not evident, and positive staining was crisp and punctate. Detection - Menarini Diagnostics X-Cell Plus HRP-Polymer Kit. SigmaFast DAB tablets were used for the final stage of staining.



Immunocytochemistry/ Immunofluorescence - Anti-NDUFB4 antibody [17G3D9E12] (ab110243)

NDUFB4 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-NDUFB4 antibody

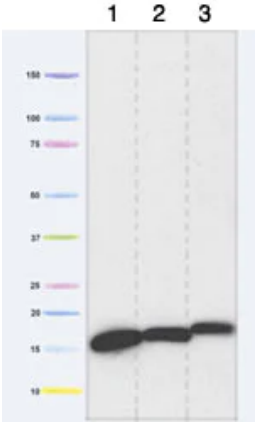
Mitochondrial localization of complex I visualized by immunocytochemistry using aab110243. Cultured Human fibroblasts were fixed, treated for heat-induced antigen retrieval, permeabilized and then labeled with ab110243 at 15µg/ml, followed by a fluorescent goat-anti-mouse IgG.



Flow Cytometry - Anti-NDUFB4 antibody [17G3D9E12] (ab110243)

NDUFB4 Flow Cytometry staining using mouse Anti-NDUFB4 antibody

HeLa cells were stained with 1 µg/mL ab110243 (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.



Western blot - Anti-NDUFB4 antibody [17G3D9E12] (ab110243)

All lanes:
Western blot - Anti-NDUFB4 antibody [17G3D9E12] (ab110243) at 0.5 µg/mL

Lane 1:
Isolated mitochondria from Human heart at 5 µg

Lane 2:
Isolated mitochondria from cow heart at 1 µg

Lane 3:
Isolated mitochondria from rat heart at 10 µg

Predicted band size: 15 kDa

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