abcam

ab14713

Anti-NDUFA9 antibody [20C11B11B11]

Anti-NDUFA9 antibody [20C11B11B11] (ab14713) is a mouse monoclonal antibody detecting NDUFA9 in **Western Blot, Flow Cytometry, IHC-P**. Suitable for **Cow, Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Over 240 publications
- Trusted since 2004

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 - 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	20C11B11B11
Purity	IgG fraction
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. 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	1-2 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Species	Human
Dilution info	1 µg/mL
Notes	-

Species	Cow
Dilution info	1 µg/mL
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information NDUFA9

Function	Accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (Complex I), that is believed not to be involved in catalysis. Required for proper complex I assembly (PubMed:28671271). 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

Notes

What is this antibody validated in?
Anti-NDUFA9 antibody [20C11B11B11] (ab14713) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P) in Cow, Human, Mouse, Rat samples.

What is the molecular weight of NDUFA9?
Anti-NDUFA9 [20C11B11B11] (ab14713) specifically detects a band for NDUFA9 (UniProt: Q16795) at a molecular weight of 40kDa.

Trusted by the scientific community
Anti-NDUFA9 [20C11B11B11] (ab14713) was first used in a scientific publication in 2004 and has been cited over 240

times in peer-reviewed journals.

Reviewed by scientists
Anti-NDUFA9 [20C11B11B11] (ab14713) has over 5 independent reviews from customers.

Specificity confirmed
The specificity of Anti-NDUFA9 antibody [20C11B11B11] (ab14713) has been confirmed by Immunocytochemistry testing in NDUFA9 Knockout HAP1 cells.

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	The NDUFA9 also known as NADH: ubiquinone oxidoreductase subunit A9 plays a mechanical role as a core component of Complex I in the mitochondrial respiratory chain. This protein facilitates the transfer of electrons from NADH to ubiquinone an essential step in cellular energy production. NDUFA9 has a molecular weight of about 39 kDa and is expressed in tissues with high energy demands like the heart and brain.
Biological function summary	NDUFA9 functions as an important element of the mitochondrial respiratory complex I contributing to ATP production through oxidative phosphorylation. It is part of the multi-subunit enzyme Complex I which consists of other integral subunits such as NDUFS1 and NDUFV2. These elements work synergistically for efficient electron transport and proton pumping across the mitochondrial inner membrane.
Pathways	NDUFA9 integrates into essential pathways like the electron transport chain and oxidative phosphorylation pathway. It works closely with proteins such as NDUFS3 and NDUFB8 essential for the integrity and activity of Complex I. The electron transport chain plays a significant role in generating the proton-motive force necessary for ATP synthesis directly linking NDUFA9 to energy metabolism.
Associated diseases and disorders	Dysfunction of NDUFA9 relates to mitochondrial disorders like Leigh syndrome and Parkinson's disease. Mutations or deficiencies in the NDUFA9 protein can impair electron transport and ATP production leading to cellular energy deficits. In Leigh syndrome other proteins such as ND3 and COX1 may be involved while in Parkinson's disease interactions with proteins like alpha-synuclein and PINK1 have been reported.

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.

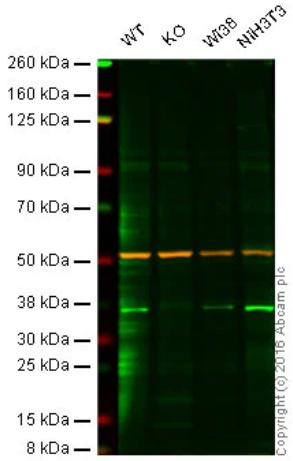
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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5 product images



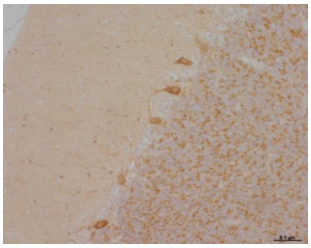
Western blot - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

NDUFA9 Western blot staining using mouse Anti-NDUFA9 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: NDUFA9 knockout HAP1 cell lysate (20 µg)
Lane 3: WI38 cell lysate (20 µg)
Lane 4: NIH3T3 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab14713 observed at 40 kDa. Red - loading control, ab176560, observed at 52 kDa.
ab14713 was shown to specifically react with NDUFA9 in wild-type HAP1 cells. No band was observed when NDUFA9 knockout HAP1 samples were used. Wild-type and NDUFA9 knockout samples were subjected to SDS-PAGE. ab14713 and ab176560 (loading control to alpha tubulin) were diluted at 1µg/mL and 1/10,000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

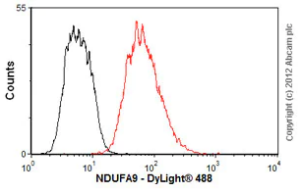
Predicted band size: 43 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

NDUFA9 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NDUFA9 antibody

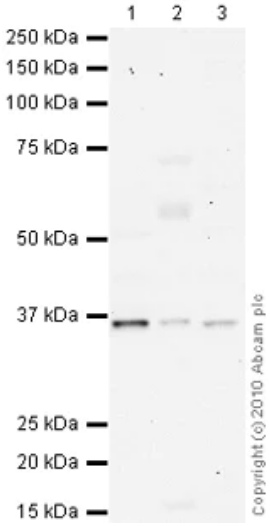
ab14713 a 1/100 dilution staining NDUFA9 in Human spinal column tissue by Immunohistochemistry (Formalin/PFA-Fixed paraffin-embedded sections). Antibody was incubated with the sample for 1 hour. Sections were incubated in peroxidase-conjugated rabbit anti-mouse secondary (diluted 1/100 in 4% BSA in PBST) for 1 hour at room temperature. Sections were washed x3 in PBST and peroxidase activity was demonstrated using kit. Antigen retrieval was performed by 1 minute of pressure cooking with 1 mmol EDTA pH 8.0.



Flow Cytometry - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

NDUFA9 Flow Cytometry staining using mouse Anti-NDUFA9 antibody

Overlay histogram showing HepG2 cells stained with ab14713 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab14713, 2µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was Mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

The band observed at 36 kDa could potentially be a cleaved form of NDUFA9 due to the presence of a 35 amino acid transit peptide.
All lanes:
Western blot - Anti-NDUFA9 antibody [20C11B11B11] (ab14713) at 1 µg/mL

Lane 1:
WI38 (Human lung fibroblast cell line) Whole Cell Lysate at 10 µg

Lane 2:
Human testis tissue lysate - total protein (ab30257) at 10 µg

Lane 3:
NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 10 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

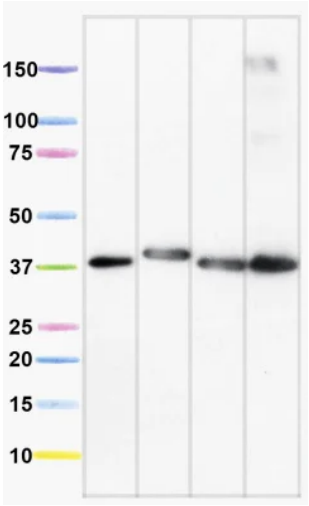
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 43 kDa

Observed band size: 36 kDa, 58 kDa

Exposure time: 20min



Western blot - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

All lanes:
Western blot - Anti-NDUFA9 antibody [20C11B11B11] (ab14713)

Lane 1:
Isolated mitochondria from Human heart at 5 µg

Lane 2:
Isolated mitochondria from Bovine heart at 1 µg

Lane 3:
Isolated mitochondria from Rat heart at 10 µg

Lane 4:
Isolated mitochondria from Mouse Heart at 10 µg

Secondary

All lanes:
Goat anti-Mouse IgG

Predicted band size: 43 kDa

Observed band size: 37 kDa

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