abcam

ab14711

Anti-NDUFS3 antibody [17D95]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	17D95
Purification technique	Affinity purification Immunogen
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	1 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Cow
Dilution info	1 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	1 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Mouse
Dilution info	0.5-1 µg/mL
Notes	-

Species	Human
Dilution info	0.5-1 µg/mL
Notes	-

Species	Rat
Dilution info	0.5-1 µg/mL
Notes	-

Expected

Species	Cow
Dilution info	0.5-1 µg/mL
Notes	-

Target data

See full target information NDUFS3

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:14729820, PubMed:30140060). Essential for the catalytic activity and assembly of complex I (PubMed:14729820, PubMed:24028823, PubMed:30140060).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

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	NADH:ubiquinone oxidoreductase core subunit S3 (NDUFS3) is an important component of the mitochondrial respiratory chain complex I also known as NADH:ubiquinone oxidoreductase. With an approximate mass of 25 kDa NDUFS3 plays an integral role in the assembly and function of complex I. This protein is mostly expressed in the mitochondria across various tissues. It is better known as a core subunit important for the catalytic activity of complex I.
Biological function summary	NDUFS3 participates in cellular respiration by facilitating the electron transfer from NADH to ubiquinone. It is part of the complex I assembly that comprises 45 different subunits. This large assembly is the first enzyme of the mitochondrial electron transport chain and it ensures efficient energy production in the form of ATP. In its role NDUFS3 collaborates closely with other core subunits like NDUFS1 and NDUFS2 to maintain the proper function of cellular metabolism.
Pathways	NDUFS3 is essential in the oxidative phosphorylation pathway which plays an important part in ATP generation. By interacting with other complex I subunits NDUFS3 enables electron flow that drives ATP synthase activity. Additionally it is

	connected to the apoptosis pathway. Its dysfunction may result in disrupted energy metabolism which can trigger cell death. NDUFS3 also interacts with proteins like NDUFV1 and NDUFV2 highlighting its centrality in energy and signal transduction processes.
Associated diseases and disorders	NDUFS3 links to mitochondrial disorders and neurodegenerative diseases such as Leigh syndrome. Mutations in NDUFS3 can impair mitochondrial function leading to reduced ATP production and accumulation of defective mitochondria. These alterations contribute to the progressive deterioration seen in these disorders. In the context of neurodegenerative diseases NDUFS3 dysfunction may associate with proteins like cytochrome c emphasizing its role in mitochondria-dependent apoptotic pathways and neuronal 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

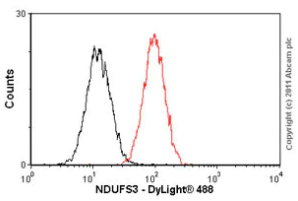
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

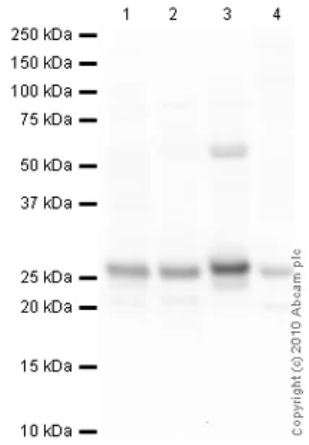


Flow Cytometry - Anti-NDUFS3 antibody [17D95] (ab14711)

NDUFS3 Flow Cytometry staining using mouse Anti-NDUFS3 antibody

Overlay histogram showing HepG2 cells stained with ab14711 (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 (ab14711, 1µg/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 IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-NDUFS3 antibody [17D95] (ab14711)

NDUFS3 Western blot staining using mouse Anti-NDUFS3 antibody

The band observed at 26 kDa could potentially be a cleaved form of NDUFS3 due to the presence of a 36 amino acid transit peptide.
All lanes:
Western blot - Anti-NDUFS3 antibody [17D95] (ab14711) at 1 µg/mL

Lane 1:
Human brain tissue lysate - total protein (ab29466) at 10 µg

Lane 2:
Human heart tissue lysate - total protein (ab29431) at 10 µg

Lane 3:
Heart (Mouse) Tissue Lysate at 10 µg

Lane 4:
HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

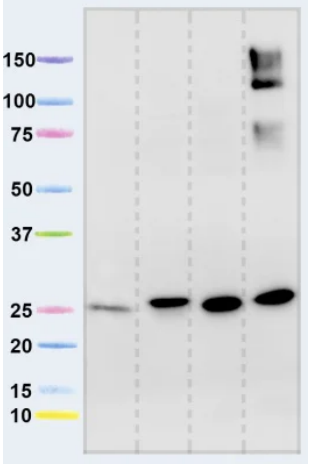
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 30 kDa

Observed band size: 26 kDa, 57 kDa

Exposure time: 1min



Western blot - Anti-NDUFS3 antibody [17D95] (ab14711)

Extra bands in the mouse sample (lane 4) are due to the reaction of the IgG-specific goat anti-mouse secondary antibody with residual mouse blood in the heart tissue, as it is very difficult to entirely remove the blood from these small organs.
All lanes:
Western blot - Anti-NDUFS3 antibody [17D95] (ab14711)

Lane 1:
Isolated mitochondria from Human heart at 5 µg

Lane 2:
Isolated mitochondria from Bovine heart at 4 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: 30 kDa

Observed band size: 26 kDa

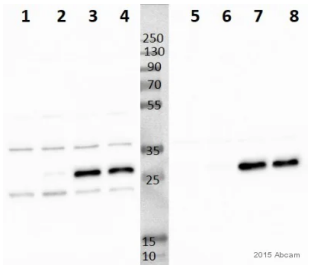


Image is courtesy of an anonymous customer review

Western blot - Anti-NDUFS3 antibody [17D95] (ab14711)

All lanes:
Western blot - Anti-NDUFS3 antibody [17D95] (ab14711) at 1/1000 dilution

Lanes 1 - 2:
Whole cell lysates from NDUFS3 KO cells. at 50 µg

Lanes 3 - 4:
Whole cell lysates from NDUFS3 WT cells. at 50 µg

Lanes 5 - 6:
Isolated mitochondria from NDUFS3 KO cells. at 50 µg

Lanes 7 - 8:
Isolated mitochondria from NDUFS3 WT cells. at 50 µg

Secondary

All lanes:
Goat anti-mouse polyclonal HRP conjugate at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 30 kDa

Observed band size: 22 kDa, 40 kDa

Exposure time: 1min

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