abcam

ab177471

Anti-NDUFS3 antibody [EPR12782] - C-terminal

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR12782
Purification technique	Affinity purification Protein A
Concentration	0.472 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

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

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

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

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/200
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
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	Conditional Ambient

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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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

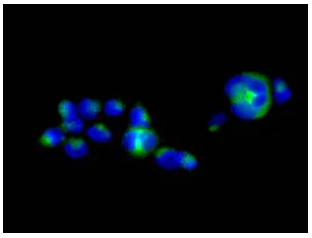
We do not recommend this combination. It is not covered by our product promise.

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.

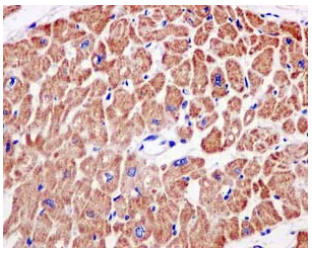
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

NDUFS3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NDUFS3 antibody

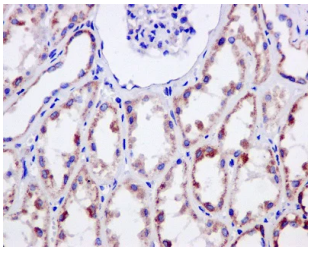
Immunofluorescence analysis of 293 cells labeling NDUFS3 with ab177471 at 1/50 dilution (green). DAPI nuclear staining (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

NDUFS3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NDUFS3 antibody

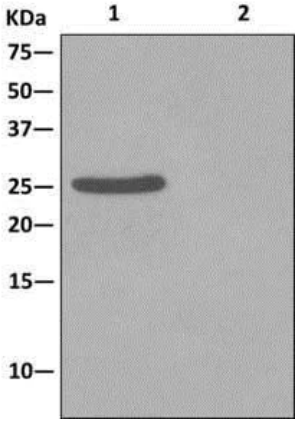
Immunohistochemcal analysis of paraffin-embedded Human heart tissue labeling NDUFS3 with ab177471 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

NDUFS3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NDUFS3 antibody

Immunohistochemcal analysis of paraffin-embedded Human kidney tissue labeling NDUFS3 with ab177471 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

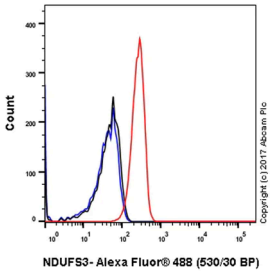


Immunoprecipitation - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

Western blot analysis on immunoprecipitation pellet from (1) human fetal heart lysate or (2) 1XPBS (negative control) using ab177471at 1/10 dilution, and HRP-conjugated anti-rabbit IgG preferentially detecting the non-reduced form of rabbit IgG.
All lanes:
Immunoprecipitation - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

Developed using the ECL technique.

Predicted band size: 30 kDa

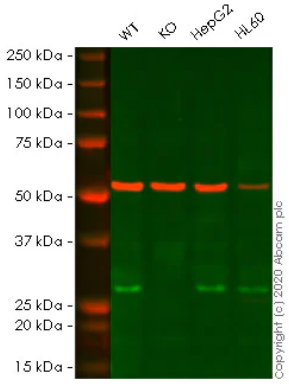


Flow Cytometry (Intracellular) - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

NDUFS3 Flow Cytometry (Intracellular) staining using rabbit Anti-NDUFS3 antibody

Intracellular Flow Cytometry analysis of HEK293 (Human embryonic kidney epithelial cell) cells labeling NDUFS3 (red) with purified ab177471 at a 1/200 dilution (10ug/mL). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti rabbit IgG (Alexa Fluor®488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit

monoclonal IgG (Black) (ab172730). Blue (unlabeled control) - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

Lanes 1- 4: Merged signal (red and green). Green - ab177471 observed at 30 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.
ab177471 was shown to react with NDUFS3 in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line ab266419 (knockout cell lysate ab257556) was used. Wild-type HEK-293T and NDUFS3 knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab177471 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
NDUFS3 knockout HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human NDUFS3 knockout HEK-293T cell line (ab266419)

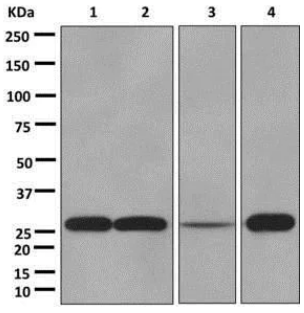
Lane 3:
HepG2 cell lysate at 20 µg

Lane 4:
HL60 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 30 kDa

Observed band size: 30 kDa



Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

NDUFS3 Western blot staining using rabbit Anti-NDUFS3 antibody

All lanes:
Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471) at 1/1000 dilution

Lane 1:
HepG2 lysate at 10 µg

Lane 2:
293T lysate at 10 µg

Lane 3:
HL60 lysate at 10 µg

Lane 4:
Fetal heart lysate at 10 µg

Secondary

All lanes:
Goat-anti-rabbit HRP at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 30 kDa

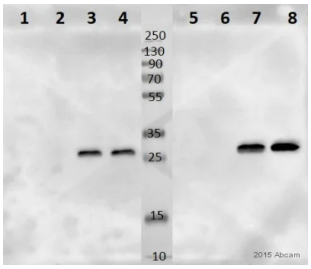


Image is courtesy of an anonymous customer review.

Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

All lanes:
Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471) 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

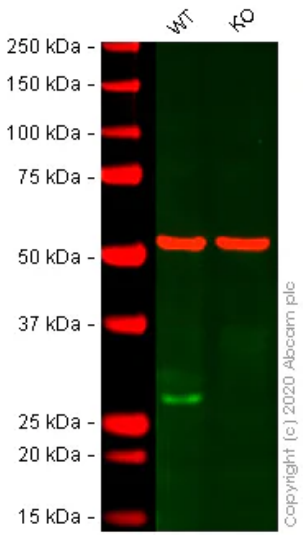
All lanes:
Goat anti-Rabbit polyclonal HRP conjugate. at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 30 kDa

Exposure time: 1min



Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471)

NDUFS3 Western blot staining using rabbit Anti-NDUFS3 antibody

Lanes 1 - 2: Merged signal (red and green). Green - ab177471 observed at 27 kDa. Red - loading control ab7291 (Mouse anti-Alpha Tubulin [DM1A]) observed at 55kDa.
ab177471 was shown to react with NDUFS3 in HEK-293T wild-type cells in western blot with loss of signal observed in NDUFS3 knockout cell line ab266419 (NDUFS3 knockout cell lysate ab257556). Wild-type and NDUFS3 knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with ab177471 and ab7291 (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-NDUFS3 antibody [EPR12782] - C-terminal (ab177471) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human NDUFS3 knockout HEK-293T cell lysate (ab257556) at 20 µg

Performed under reducing conditions.

Predicted band size: 30 kDa

Observed band size: 27 kDa

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