abcam

**ab110244**

# Anti-NDUFB6 antibody [21C11BC11]

## Key facts

| | |
|---|---|
| **Isotype** | IgG2b |
| **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** | 21C11BC11 |
| **Light chain type** | kappa |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>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

## WB

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Cow |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1 µg for $10^6$ Cells |
| **Notes** | ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody. |

### Expected

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

## Target data

See full target information NDUFB6

| | |
|---|---|
| **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** | NDUFB6 also known as NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6 is a component of mitochondrial complex I. It weighs approximately 15 kDa and can be found expressed in numerous tissues including those with high energy demands like muscle and brain. The primary role of NDUFB6 involves its participation in the electron transport chain (ETC) within mitochondria which is important for adenosine triphosphate (ATP) production. |
| **Biological function summary** | NDUFB6 functions as a part of the complex I of the respiratory chain. This complex is an essential part of the ETC where it assists in the transfer of electrons from NADH to ubiquinone. NDUFB6 despite not being directly involved in the electron transfer function lends structural stability to the entire complex. This stabilizing role is critical for maintaining the efficiency of cellular respiration and energy production. |
| **Pathways** | NDUFB6 plays a role in cellular respiration processes particularly in oxidative phosphorylation. In this pathway it is closely linked with proteins such as NDUFA4 and NDUFA5 which are also components of complex I. These interactions consolidate the ETC's function ensuring that energy transfer and ATP production happen efficiently. Misfunctions in this pathway can disrupt cellular energy dynamics affecting cellular metabolism and overall organismal homeostasis. |
| **Associated diseases and disorders** | NDUFB6 has connections to mitochondrial-related conditions including mitochondrial complex I deficiency. This deficiency can lead to neurodegenerative disorders and muscle weakness due to impaired ATP production. Additionally alterations in NDUFB6 expression or function may link to Leber's hereditary optic neuropathy often presenting in association with other complex I subunits like ND1 and ND4. Understanding NDUFB6 interactions and function could improve insight into these mitochondrial diseases and potential therapeutic approaches. |

## 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**

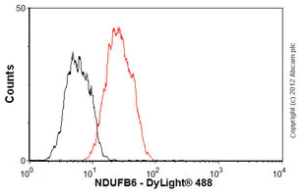
We do not recommend this combination. It is not covered by our product promise.

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.

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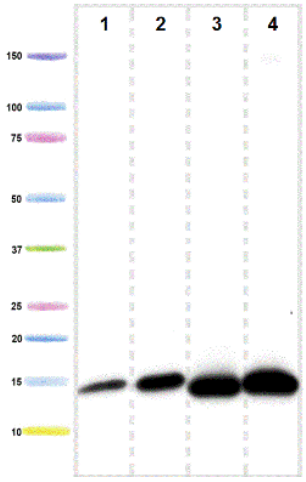
## 3 product images




### Flow Cytometry - Anti-NDUFB6 antibody [21C11BC11] (ab110244)

NDUFB6 Flow Cytometry staining using mouse Anti-NDUFB6 antibody

Overlay histogram showing HepG2 cells stained with ab110244 (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. The cells were then incubated with the antibody (ab110244, 1µg/1x$10^6$ 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 IgG2b [PLPV219] (ab91366, 2µg/1x$10^6$ cells) used under the same conditions. Acquisition of >5,000 events was performed.




## Western blot - Anti-NDUFB6 antibody [21C11BC11] (ab110244)

All lanes:
Western blot - Anti-NDUFB6 antibody [21C11BC11] (ab110244) 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

Lane 4:
isolated mitochondria from mouse heart at 10 µg

Predicted band size: 15 kDa

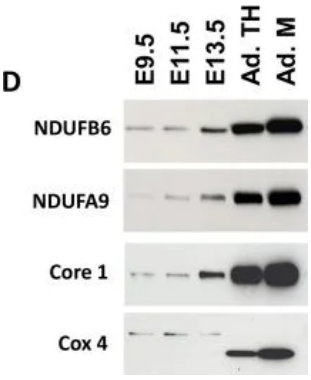



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## Western blot - Anti-NDUFB6 antibody [21C11BC11] (ab110244)

NDUFB6 western blot using anti-NDUFB6 antibody [21C11BC11] ab110244. Publication image and figure legend from Beutner, G., Eliseev, R. A., et al., 2014, PLoS One, PubMed 25427064.

ab110244 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab110244 please see the product overview.

The assembly of ETC complexes into supercomplexes begins around E11.5.A. One-dimensional high resolution clear native PAGE (hrCN-PAGE) shows the presence of monomeric Cx-1 and the appearance of Cx-1 containing supercomplexes during embryonic development and in adult mouse hearts. Whole tissue homogenates (10 µg for embryonic samples and 5 µg for adult sample) from hearts were solubilized with digitonin (4g digitonin/g protein) and separated by 5–15% hrCN-PAGE. The proteins were then transferred onto nitrocellulose membranes and Cx-1 was visualized first by the detection of NDUFAB1 (ab1, a rabbit polyclonal antibody). Then, the membrane was stripped and re-probed against NDUFB6 (B6, a mouse-monoclonal antibody). In addition, an in-gel assay of Cx-1 (IGA) demonstrates functional complex I monomers and supercomplexes are present in adult heart homogenates. B and C. Quantitative analysis of the presence of monomeric Cx-1 (B) and supercomplexes containing Cx-1 (C). NS–not significant, *p≤0.05, **p≤0.01, ***p≤0.005, and ****p≤0.0001 compared to adult heart samples using ANOVA with Tukey post hoc testing; n=5. D. Immunocapture of supercomplexes using anti-Cx-3 antibodies; the immunoprecipitate was analyzed by SDS PAGE/immunoblot for the presence of subunits of Cx-1 (NDUFB6 and NDUFA9), Cx-3 (ubiquinol-cytochrome reductase core protein 1 precursor, Core 1) and Cx-4 (cytochrome c oxidase, subunit 4 (Cox 4)). Homogenates from E9.5, E11.5, and 13.5 heart tissue and homogenate (TH) and mitochondria (M) from adult hearts were examined. Representative immunoblots from n=3, although these immunoblots are overexposed to demonstrate labeling at younger ages.

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