Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Total OXPHOS Rodent WB Antibody Cocktail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assay type</td>
<td>Quantitative</td>
</tr>
<tr>
<td>Species reactivity</td>
<td>Reacts with: Mouse, Rat, Cow, Human, Cynomolgus monkey</td>
</tr>
<tr>
<td>Product overview</td>
<td>Total OXPHOS Rodent WB Antibody Cocktail ab110413 is an optimized cocktail of high quality antibodies for analyzing relative levels of OXPHOS complexes in rat or mouse mitochondria by western blot.</td>
</tr>
</tbody>
</table>

This OXPHOS cocktail contains 5 mouse mAbs, one each against CI subunit NDUFB8 (ab110242), CII-30kDa (ab14714), CIII-Core protein 2 (ab14745), CIV subunit I (ab14705) and CV alpha subunit (ab14748) as an optimized premixed cocktail. The kit is suitable for Western Blotting analysis of the relative levels of the 5 OXPHOS complexes in mitochondrial preparations from mouse, rat, human, or bovine sources. The positive control supplied with the cocktail is ab110341.

Altered levels of assembly can arise from mutations in individual subunits, mutations in assembly factors for the complex(es), mtDNA depletion or as a result of physiological and or pathological changes e.g. hormone treatment, exercise, diet or oxidative stress.

The mAbs in the cocktail were chosen because they are each against a subunit that is labile when its complex is not assembled. Also, the different subunits are easily resolved in SDS-PAGE (see protocols).

Note: Mouse tissue samples can easily be contaminated with antibodies from the animal's blood. To avoid background bands, use ab110413 with an anti-mouse secondary against native antibodies. Also, COXI is a highly hydrophobic protein and appears as a broad band at ~35 kDa (not at its true molecular weight at 57 kDa). It is very sensitive to heating. Therefore, the samples, including the positive control, should not be heated over 50°C before loaded on the gel.

The Western blot cocktail is supplied at a concentration of 1.5 mg/mL.

We recommend using a high pH CAPS / PVDF transfer protocol when using this antibody for Western blot.
**Notes**

**Related products**

Review the mitochondrial assay guide, or the full metabolism assay guide to learn about more assays for metabolites, metabolic enzymes, mitochondrial function, and oxidative stress, and also how to assay metabolic function in live cells using your plate reader.

**Tested applications**

**Suitable for:** WB

---

**Properties**

**Storage instructions**

Store at -80°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>300 µg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocktail of 5 Antibodies</td>
<td>1 x 300µg</td>
</tr>
<tr>
<td>Rat Heart Mitochondria Western Blot Control</td>
<td>1 x 50µg</td>
</tr>
</tbody>
</table>

**Applications**

Our Abpromise guarantee covers the use of **ab110413** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td></td>
<td>Use at an assay dependent concentration. The antibody cocktail (1.5 mg/mL) should be diluted 250x to a final working concentration of 6.0 µg/mL for Western blotting. We recommend using PBS with 1% milk as the antibody diluent. Store the antibody cocktail at 4°C and the control sample at -80°C. We recommend using a high pH CAPS / PVDF transfer protocol when using this antibody for Western blot. Please contact us for more details.</td>
</tr>
</tbody>
</table>

---

**Images**
Rat liver mitochondria labeled with ab110413 (MS604). The sample in lane 1 was kept at room temperature, whereas the remaining three samples were heated to 37°C, 50°C, and 100°C, respectively. This blot shows that boiling of samples leads to a decrease in signal due to aggregation of proteins therefore heating samples at or close to boiling is not recommended.

Isolated mitochondria from mice brain (control and Alzheimer’s disease (AD)) labeled with ab110413 at 1/1000 dilution in 5% BSA.

This image shows NADH dehydrogenase beta subcomplex subunit 8 of Complex I (NDUFB8), succinate dehydrogenase subunit B of Complex II (SDHB), cytochrome c oxidase subunit 1 of Complex IV (MTCO1), cytochrome b-c1 complex subunit 2 of Complex III (UQRC2) and ATP synthase subunit alpha of Complex V (ATP5A).

See Abreview

Isolated mitochondria from heart of human (5 µg - Lane 1), cow (1 ug - Lane 2), rat (10 µg - Lane 3), mouse (10 µg - Lane 4) labeling CI subunit NDUFB8 with ab110242 at 0.5 ug/ml.

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.
Isolated mitochondria from heart of human (5 µg - Lane 1), cow (1 µg - Lane 2), rat (10 µg - Lane 3), mouse (10 µg - Lane 4), HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate (20 µg - Lane 5) labeling CII-30kDa with ab14714 at 5 µg/mL. Secondary antibody is a goat anti-mouse antibody. 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.

Human skeletal muscle tissue lysate, (10 µg - Lane 1) and Ramos (human Burkitt's lymphoma cell line) whole cell lysate (10 µg - Lane 2) labeling CIII-Core protein 2 with ab14745 at 5 µg/mL. Secondary antibody is a goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP), 1/3000 dilution.
Isolated mitochondria from heart of human (5 µg - Lane 1), cow (1 µg - Lane 2), rat (10 µg - Lane 3), mouse (5 µg - Lane 4) labeling CIV subunit I with ab14705 at 0.5 µg/mL. Secondary antibody is a goat anti-mouse antibody.

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.

Isolated mitochondria from heart of human (10 µg - Lane 1), cow (4 µg - Lane 2), rat (10 µg - Lane 3), mouse (10 µg - Lane 4), HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate (20 µg - Lane 5) labeling CV alpha subunit with ab14748 at 1 µg/mL.
Human liver tissue lysate, (10 µg - Lane 1) and HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate (10 µg - Lane 2) labeling CV alpha subunit with ab14748 at 1 µg/mL. Secondary antibody is a goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP), 1/3000 dilution.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors