

## Product datasheet

### Anti-MTCO2 antibody [MM7D-5A11CA9] ab156031

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#### Overview

<b>Product name</b>	Anti-MTCO2 antibody [MM7D-5A11CA9]
<b>Description</b>	Mouse monoclonal [MM7D-5A11CA9] to MTCO2
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, WB, Flow Cyt, IP
<b>Species reactivity</b>	<b>Reacts with:</b> Human, African green monkey <b>Does not react with:</b> Mouse, Rat
<b>Immunogen</b>	Tissue, cells or virus. This information is considered to be commercially sensitive.
<b>Positive control</b>	Human liver and heart mitochondrial extracts; Human heart homogenate; 143B(Human osteosarcoma), HeLa and COS7 cells.
<b>General notes</b>	<p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact <a href="mailto:orders@abcam.com">orders@abcam.com</a>.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p> <p>Product was previously marketed under the MitoSciences sub-brand.</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C.
<b>Storage buffer</b>	pH: 7.5 Preservative: 0.02% Sodium azide Constituent: 99% HEPES buffered saline
<b>Purification notes</b>	Near homogeneity as judged by SDS-PAGE. ab156031 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.
<b>Clonality</b>	Monoclonal

Clone number	MM7D-5A11CA9
Isotype	IgG1

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab156031 in the following tested applications.

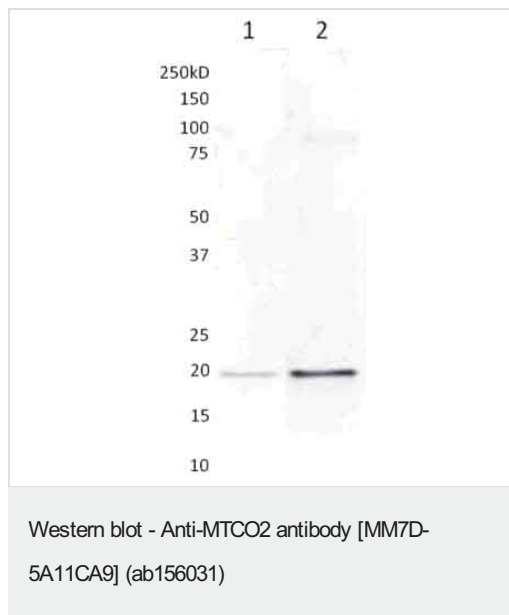
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		Use a concentration of 1 µg/ml.
WB		Use a concentration of 5 µg/ml. Detects a band of approximately 20 kDa (predicted molecular weight: 25.5 kDa).
Flow Cyt		Use a concentration of 1 µg/ml. <b>ab170190</b> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IP		Use at an assay dependent concentration.

## Target

<b>Function</b>	Cytochrome c oxidase is the component of the respiratory chain that catalyzes the reduction of oxygen to water. Subunits 1-3 form the functional core of the enzyme complex. Subunit 2 transfers the electrons from cytochrome c via its binuclear copper A center to the bimetallic center of the catalytic subunit 1.
<b>Involvement in disease</b>	Defects in MT-CO2 are a cause of mitochondrial complex IV deficiency (MT-C4D) [MIM:220110]; also known as cytochrome c oxidase deficiency. A disorder of the mitochondrial respiratory chain with heterogeneous clinical manifestations, ranging from isolated myopathy to severe multisystem disease affecting several tissues and organs. Features include hypertrophic cardiomyopathy, hepatomegaly and liver dysfunction, hypotonia, muscle weakness, exercise intolerance, developmental delay, delayed motor development and mental retardation. A subset of patients manifest Leigh syndrome.
<b>Sequence similarities</b>	Belongs to the cytochrome c oxidase subunit 2 family.
<b>Cellular localization</b>	Mitochondrion inner membrane.

## Images



**All lanes :** Anti-MTCO2 antibody [MM7D-5A11CA9] (ab156031) at 5 µg/ml

**Lane 1 :** Human Liver Mitochondria Extract

**Lane 2 :** Human Heart Mitochondria Extract

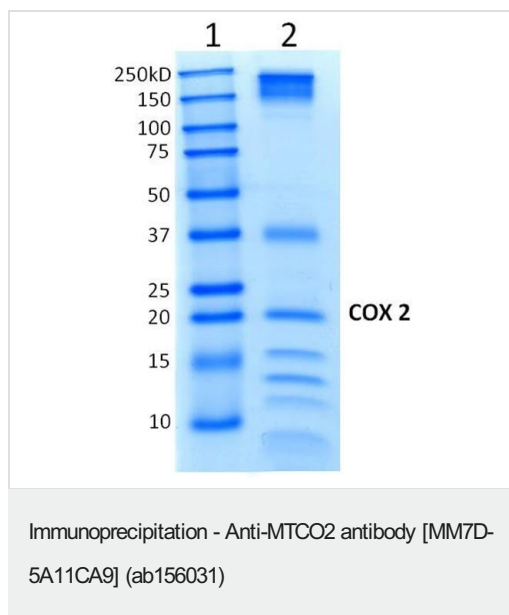
Lysates/proteins at 40 µg per lane.

### Secondary

**All lanes :** Goat polyclonal to Mouse IgG - AP at 1/3000 dilution

**Predicted band size:** 25.5 kDa

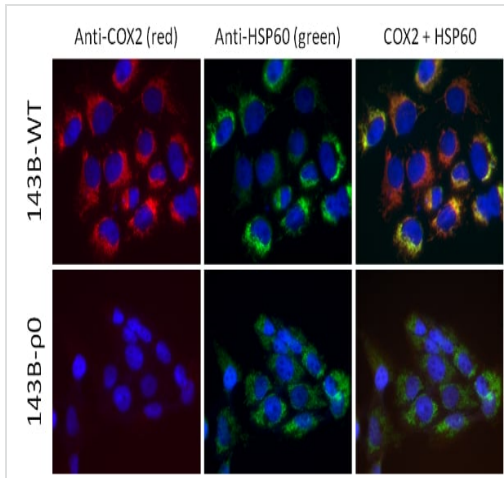
1X Blocking Buffer (**ab126587**) in H<sub>2</sub>O was used for blocking and incubation steps.



Immunoprecipitation Coomassie stained gel for Anti-COXII antibody (ab156031).

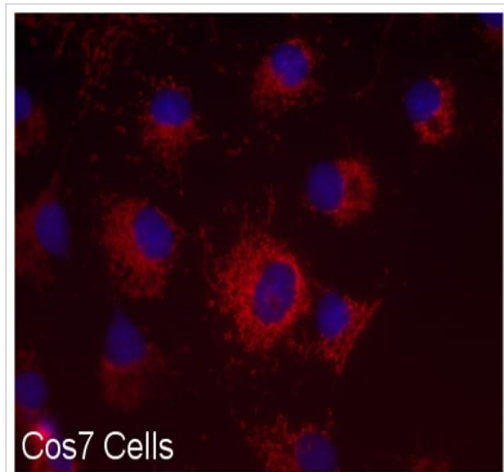
Lane 1: Ladder

Lane 2: COXII Immunoprecipitated from 1mg Human Heart Homogenate (HHH) Extract. ab156031 anti-COXII captures the entire Cytochrome c oxidase complex in immunoprecipitation.



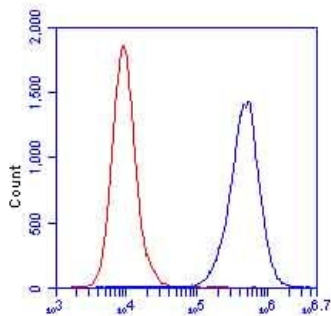
Immunocytochemistry/ Immunofluorescence - Anti-MTCO2 antibody [MM7D-5A11CA9] (ab156031)

Immunocytochemical analysis of 143B (Human osteosarcoma) wild type (WT) and mtDNA lacking (?0) cells (paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15 min)) labeling COXII with ab156031 at 1µg/ml (red) and anti-HSP60 (**ab46798**) at 1/1000 (green) as a counter stain. Secondary: Alexa 594 goat anti-mouse IgG at 1/1000 and Alexa 488 goat anti-rat IgG at 1/1000. ab156031 shows good reactivity with the wild type (143B-WT) cell line, but shows no signal with the mtDNA lacking (143B-?0) cell line. Cytochrome c oxidase 2 is exclusively encoded by mitochondrial DNA. The anti-HSP60 counter stain antibody identified mitochondria in both cell lines.



Immunocytochemistry/ Immunofluorescence - Anti-MTCO2 antibody [MM7D-5A11CA9] (ab156031)

Immunocytochemical analysis of COS7 (monkey kidney fibroblast) cells (paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15 min)) labeling COXII with ab156031 at 1µg/ml (red). Secondary: Alexa 594 goat anti-mouse IgG at 1/1000. ab156031 shows good reactivity with the COS7 cell type indicating cross reactivity with monkey cytochrome c oxidase.



Flow Cytometry - Anti-MTCO2 antibody [MM7D-5A11CA9] (ab156031)

Flow cytometric analysis of HeLa cells (fixed and permeabilized with methanol) labeling COXII with ab156031 (blue) at 1 µg/ml and an equal amount of an isotype control antibody (red).

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

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