

Product datasheet

Anti-COX IV antibody [20E8C12] ab14744

★★★★★ 27 Abreviews 187 References 6 Images

Overview

Product name	Anti-COX IV antibody [20E8C12]
Description	Mouse monoclonal [20E8C12] to COX IV
Host species	Mouse
Tested applications	Suitable for: Flow Cyt, IHC-FoFr, WB, ICC/IF, IHC-Fr, IHC-P, IP
Species reactivity	Reacts with: Mouse, Rat, Hamster, Cow, Human, Pig, Drosophila melanogaster, Zebrafish
Immunogen	Tissue, cells or virus corresponding to Cow COX IV.
Positive control	Human, bovine, murine and rat heart mitochondria.
General notes	<p>This antibody clone is manufactured by Abcam.</p> <p>This antibody makes an effective loading control for mitochondria. COXIV is generally expressed at a consistent high level. However, be aware that many proteins run at the same 16kD size as COXIV - our VDAC1 / Porin antibody makes a good alternative mitochondrial loading control for proteins of this size. Some caution is required when using this antibody as a loading control as COXIV expression can vary under some manipulations. An alternative mitochondrial loading control is Rabbit polyclonal to COX IV antibody (ab16056).</p> <p>If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C.
Storage buffer	Preservative: 0.02% Sodium azide Constituent: HEPES buffered saline
Purity	IgG fraction
Primary antibody notes	<p>This antibody makes an effective loading control for mitochondria. COXIV is generally expressed at a consistent high level. However, be aware that many proteins run at the same 16kD size as COXIV - our VDAC1 / Porin antibody makes a good alternative mitochondrial loading control for proteins of this size. Some caution is required when using this antibody as a loading control as COXIV expression can vary under some manipulations. An alternative mitochondrial loading control is Rabbit polyclonal to COX IV antibody (ab16056).</p>
Clonality	Monoclonal

Clone number	20E8C12
Isotype	IgG2a
Light chain type	kappa

Applications

Our [Abpromise guarantee](#) covers the use of **ab14744** in the following tested applications.

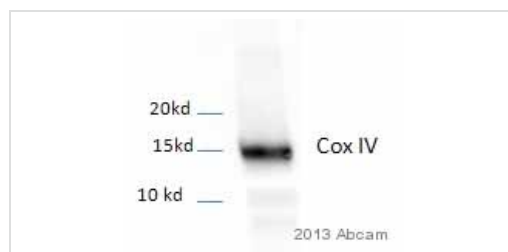
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use 0.5µg for 10 ⁶ cells. ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
IHC-FoFr		Use at an assay dependent concentration. PubMed: 18698340
WB	★★★★☆	Use a concentration of 1 µg/ml. Detects a band of approximately 17 kDa.
ICC/IF	★★★★★	Use at an assay dependent concentration.
IHC-Fr		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration.
IP		Use at an assay dependent concentration.

Target

Function	This protein is one of the nuclear-coded polypeptide chains of cytochrome c oxidase, the terminal oxidase in mitochondrial electron transport.
Tissue specificity	Ubiquitous.
Sequence similarities	Belongs to the cytochrome c oxidase IV family.
Cellular localization	Mitochondrion inner membrane.

Images



Western blot - Anti-COX IV antibody [20E8C12] (ab14744)

This image is courtesy of an anonymous Abreview

Anti-COX IV antibody [20E8C12] (ab14744) at 1/1000 dilution +
Fruit fly (*Drosophila melanogaster*) heart tube tissue lysate at 10 µg

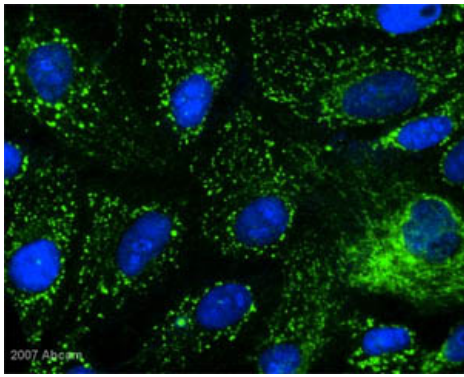
Secondary

HRP-conjugate Goat anti-mouse IgG polyclonal at 1/4000 dilution

Developed using the ECL technique.

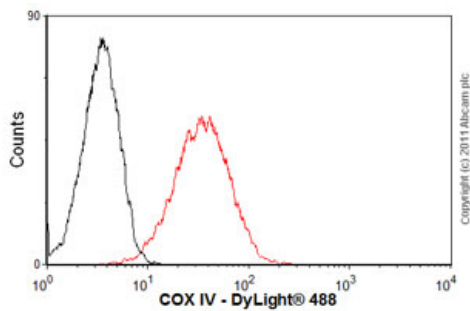
Performed under reducing conditions.

Exposure time: 1 minute



Immunocytochemistry/ Immunofluorescence - Anti-COX IV antibody [20E8C12] (ab14744)

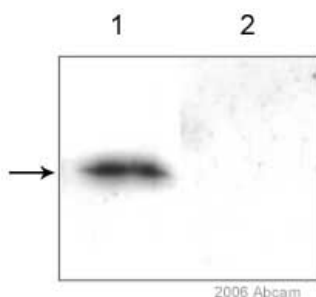
This image is courtesy of an anonymous Abreview



Flow Cytometry - Anti-COX IV antibody [20E8C12] (ab14744)

ab14744 at 1/100 staining MCF-10A cells (human mammary epithelial cell line) by ICC/IF. The cells were methanol/acetone fixed at -20C for 5 minutes, blocked with BSA and then incubated with the antibody for 16 hours. The positive tissue was colocalised with a mitotracker (mitotrackers are a series of patented mt-selective stains that are concentrated by active mt and well retained during cell fixation). An Alexa-Fluor® 488 conjugated goat anti-mouse antibody was used as the secondary. The image shows COX IV staining in green and DAPI staining in blue.

Overlay histogram showing HeLa cells stained with ab14744 (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 (ab14744, 0.5µg/1x10⁶ 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 IgG1 [CIGG1](ab91353, 2µg/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-COX IV antibody [20E8C12] (ab14744)

All lanes : Anti-COX IV antibody [20E8C12] (ab14744) at 1/5000 dilution

Lane 1 : Cytoplasmic fraction mouse NIH/3T3 cell lysate

Lane 2 : Nuclear fraction mouse NIH/3T3 cell lysate

Secondary

All lanes : HRP conjugated goat anti-mouse antibody

Developed using the ECL technique.

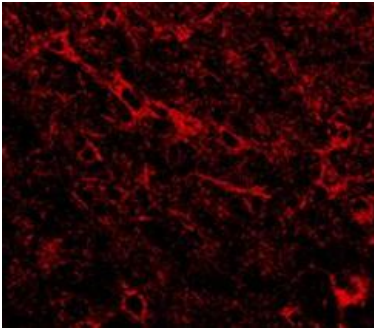
Performed under reducing conditions.

Observed band size: 16 kDa

[why is the actual band size different from the predicted?](#)

Exposure time: 3 minutes

This image is courtesy of an Abreview submitted by **Camilla Skjerpen** on **4 July 2005**.



Immunohistochemistry (PFA perfusion fixed frozen sections) - Anti-COX IV antibody [20E8C12] (ab14744)

Image from Hashimoto T. et. al., PLoS ONE. 2008; 3(8): e2915 (Fig. 1B)

ab14744 staining COX IV in rat brain tissue sections by Immunohistochemistry (PFA perfusion fixed frozen sections). Rats were anesthetized and intracardially perfused with 500 ml of normal saline at room temperature, followed by 500 ml of ice-cold, freshly made 4% paraformaldehyde in phosphate buffer (PB, 0.1 M, pH 7.4). A Cy3 conjugated anti mouse antibody was used as secondary.



Western blot - Anti-COX IV antibody [20E8C12] (ab14744)

All lanes : Anti-COX IV antibody [20E8C12] (ab14744) at 1 µg/ml

Lane 1 : Isolated mitochondria from human heart at 5 µg

Lane 2 : Isolated mitochondria from bovine heart at 1 µg

Lane 3 : Isolated mitochondria from rat heart at 10 µg

Lane 4 : Isolated mitochondria from murine heart at 10 µg

Observed band size: 16 kDa [why is the actual band size different from the predicted?](#)

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