Store at -20°C

#11967 Cox IV (4D11-B3-E8) Mouse mAb

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100 µl (10 western blots)

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Entrez-Gene ID #1327
UniProt ID #P13073

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IF-IC Endogenous	H, M, R, Mk	17 kDa	Mouse IgG1**

Background: Cytochrome c oxidase (COX) is a hetero-oligomeric enzyme consisting of 13 subunits localized to the inner mitochondrial membrane (1-3). It is the terminal enzyme complex in the respiratory chain, catalyzing the reduction of molecular oxygen to water coupled to the translocation of protons across the mitochondrial inner membrane to drive ATP synthesis. The 3 largest subunits forming the catalytic core are encoded by mitochondrial DNA, while the other smaller subunits, including COX IV, are nuclear-encoded. Research studies have shown that deficiency in COX activity correlates with a number of human diseases (4). The COX IV antibody can be used effectively as a mitochondrial loading control in cell-based research assays.

Specificity/Sensitivity: Cox IV (4D11-B3-E8) Mouse mAb recognizes endogenous levels of total Cox IV protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Cox IV protein.

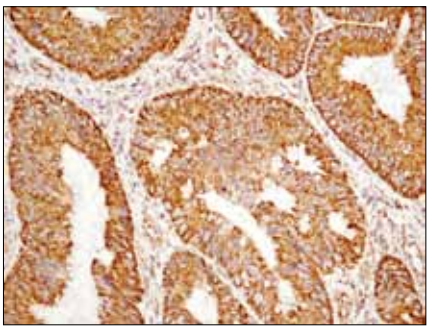
Background References:

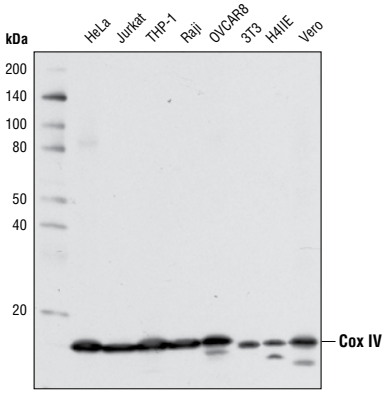
(1) Ostermeier, C. et al. (1996) *Curr. Opin. Struct. Biol.* 6, 460-466.

(2) Capaldi, R.A. et al. (1983) *Biochim. Biophys. Acta* 726, 135-148.

(3) Kadenbach, B. et al. (2000) *Free Radic. Biol. Med.* 29, 211-221.

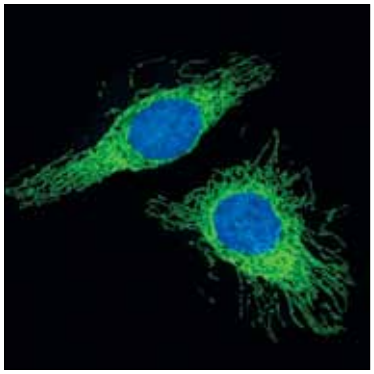
(4) Barrientos, A. et al. (2002) *Gene* 286, 53-63.





Western blot analysis of extracts from various cell lines using Cox IV (4D11-B3-E8) Mouse mAb.

HeLa



Confocal immunofluorescent analysis of HeLa cells using Cox IV (4D11-B3-E8) Mouse mAb (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

◀ *Immunohistochemical analysis of paraffin-embedded human colon carcinoma using Cox IV (4D11-B3-E8) Mouse mAb.*

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

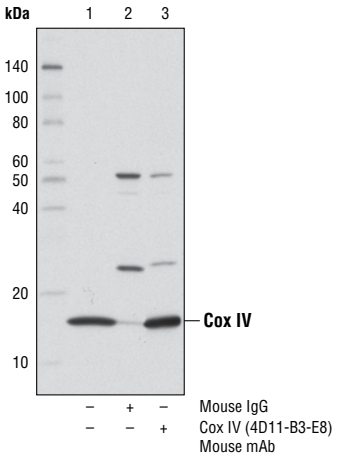
****Anti-mouse secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:50†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Mouse) #8125

†*Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.*

Immunofluorescence (IF-IC)	1:200
IF Protocol:	Methanol Permeabilization required



Immunoprecipitation of Cox IV from HeLa cell extracts, using a non-specific mouse IgG control antibody (lane 2) or Cox IV (4D11-B3-E8) Mouse mAb (lane 3). Lane 1 is 10% input. Western blot was performed using Cox IV (4D11-B3-E8) Mouse mAb.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.