Revision 6

#4850 Store at -20C

COX IV (3E11) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, W-S, IP, IHC-P, IF-IC, FC-FP	H R Mk Z B Pg	Endogenous	17	Rabbit IgG	#P13073	1327

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:500 - 1:2000
Immunofluorescence (Immunocytochemistry)	1:200 - 1:800
Flow Cytometry (Fixed/Permeabilized)	1:400 - 1:1600

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.

For a carrier free (BSA and azide free) version of this product see product #97783.

Specificity / Sensitivity

COX IV (3E11) Rabbit mAb detects endogenous levels of total COX IV protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys29 of human COX IV. Antibodies were purified by protein A and peptide affinity chromatography.

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.

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation
IHC-P: Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)
FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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