

# COX IV (3E11) Rabbit mAb (Alexa Fluor® 555 Conjugate)



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

Applications	Species Cross-Reactivity*	Isotype
IF-IC Endogenous	H, R, Mk, Z, B, Pg	Rabbit IgG

**Description:** This Cell Signaling Technology (CST) antibody is conjugated to Alexa Fluor® 555 fluorescent dye under optimal conditions and tested in-house for direct immunofluorescent analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated COX IV (3E11) Rabbit mAb #4850.

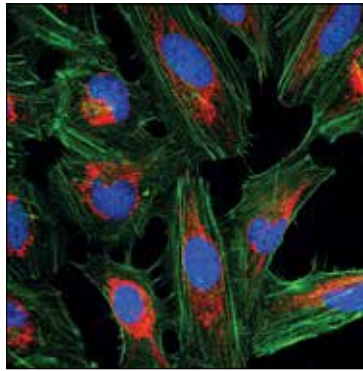
**Background:** Cytochrome c oxidase (COX) is a hetero-oligomeric enzyme consisting of 13 subunits localized to the inner mitochondrial membrane (1-3). It is the terminal enzyme complex in the respiratory chain, catalyzing the reduction of molecular oxygen to water coupled to the translocation of protons 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 (3E11) Rabbit mAb (Alexa Fluor® 555 Conjugate) 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 protein. Antibodies were purified by protein A and peptide affinity chromatography.

#### 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.



Confocal immunofluorescent analysis of HeLa cells using COX IV (3E11) Rabbit mAb (Alexa Fluor® 555 Conjugate) Rabbit mAb (red). Actin filaments were labeled with Alexa Fluor® 488 phalloidin (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Entrez-Gene ID #1327  
UniProt ID #P13073

**Storage:** Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Protect from light. Do not freeze.*

**\*Species cross-reactivity other than human is determined by western using the unconjugated antibody.**

#### Recommended Antibody Dilutions:

Immunofluorescence (IF-IC) 1:50

**For product specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

**Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.**

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