

# COX11 (M-18): sc-48980

## BACKGROUND

Cytochrome c oxidase (COX) is the terminal enzyme in the electron transfer chain, functioning as a transmembrane proton pump that builds an electrochemical gradient with chemical energy from the reduction of O<sub>2</sub>. Cytochrome c oxidase assembly protein COX11 is an intracellular mitochondrial membrane protein necessary for the construction of an active COX complex. COX11 contains a single transmembrane helix downstream of the N-terminal, mitochondrial targeting sequence and a C-terminal Cu(I)-binding domain. The assembly of COX requires the delivery of metal cofactors. Along with COX12 and SCO1/2, COX11 acts as a metal ion chaperone necessary for copper insertion into CuA and CuB redox-active copper centers of COX in eukaryotes.

## REFERENCES

1. Petruzzella, V., et al. 1998. Identification and characterization of human cDNAs specific to BCS1, PET112, SCO1, COX15 and COX11, five genes involved in the formation and function of the mitochondrial respiratory chain. *Genomics* 54: 494-504.
2. Horng, Y.C., et al. 2004. Specific copper transfer from the COX17 metallochaperone to both SCO1 and COX11 in the assembly of yeast cytochrome c oxidase. *J. Biol. Chem.* 279: 35334-35340.
3. Carr, H.S., et al. 2005. Functional analysis of the domains in COX11. *J. Biol. Chem.* 280: 22664-22669.
4. Horvath, R., et al. 2005. Congenital cataract, muscular hypotonia, developmental delay and sensorineural hearing loss associated with a defect in copper metabolism. *J. Inherit. Metab. Dis.* 28: 479-492.
5. Guo, D., et al. 2005. Physical interaction and functional coupling between ACDP4 and the intracellular ion chaperone COX11, an implication of the role of ACDP4 in essential metal ion transport and homeostasis. *Mol. Pain* 1: 15.
6. Arnesano, F., et al. 2005. Ortholog search of proteins involved in copper delivery to cytochrome c oxidase and functional analysis of paralogs and gene neighbors by genomic context. *J. Proteome Res.* 4: 63-70.

## CHROMOSOMAL LOCATION

Genetic locus: COX11 (human) mapping to 17q22; Cox11 (mouse) mapping to 11 D.

## SOURCE

COX11 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of COX11 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-48980 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

COX11 (M-18) is recommended for detection of COX11 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

COX11 (M-18) is also recommended for detection of COX11 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for COX11 siRNA (h): sc-60438, COX11 siRNA (m): sc-60439, COX11 shRNA Plasmid (h): sc-60438-SH, COX11 shRNA Plasmid (m): sc-60439-SH, COX11 shRNA (h) Lentiviral Particles: sc-60438-V and COX11 shRNA (m) Lentiviral Particles: sc-60439-V.

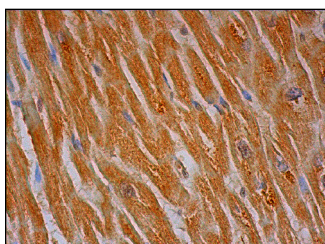
Molecular Weight of COX11: 28 kDa.

Positive Controls: Mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



COX11 (M-18): sc-48980. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.