

# COX11 (N-20): sc-48981

## 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

- 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.
- Hornig, 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.
- Carr, H.S., et al. 2005. Functional analysis of the domains in COX11. *J. Biol. Chem.* 280: 22664-22669.
- Horvath, R., et al. 2005. Congenital cataract, muscular hypotonia, developmental delay and sensorineural hearing loss associated with a defect in copper metabolism. *J. Inher. Metab. Dis.* 28: 479-492.
- 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.
- 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.

## SOURCE

COX11 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of COX11 of human 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-48981 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 (N-20) is recommended for detection of COX11 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

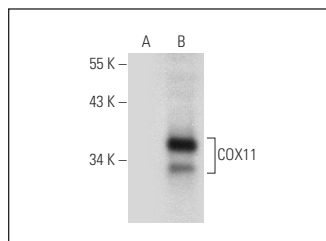
Molecular Weight of COX11: 28 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, COX11 (h): 293T Lysate: sc-174228 or SH-SY5Y cell lysate: sc-3812.

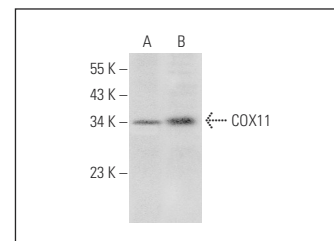
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



COX11 (N-20): sc-48981. Western blot analysis of COX11 expression in non-transfected: sc-117752 (A) and human COX11 transfected: sc-174228 (B) 293T whole cell lysates.



COX11 (N-20): sc-48981. Western blot analysis of COX11 expression in SH-SY5Y (A) and IMR-32 (B) whole cell lysates.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.