



COX11 (h): 293T Lysate: sc-174228

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_2 . 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.

PRODUCT

COX11 (h): 293T Lysate represents a lysate of human COX11 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

COX11 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive COX11 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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