

COX17 (h): 293T Lysate: sc-111714

BACKGROUND

The cytochrome c oxidase (COX) family of proteins function as the final electron donor in the respiratory chain to drive a proton gradient across the inner mitochondrial membrane, ultimately resulting in the production of water. The mammalian COX apoenzyme is a dimer, with each monomer consisting of 13 subunits, some of which are mitochondrial and some of which are nuclear. Cytochrome c oxidase 17 (COX17) is a nuclear gene encoding a mitochondrial copper chaperone protein necessary for proper COX apoenzyme-dependent mitochondrial respiration. COX17 is a highly conserved protein and influences the recruitment of copper ions to the mitochondria for delivery and incorporation into the COX apoenzyme.

REFERENCES

1. Amaravadi, R., et al. 1997. Isolation of a cDNA encoding the human homolog of COX17, a yeast gene essential for mitochondrial copper recruitment. *Hum. Genet.* 99: 329-333.
2. Horvath, R., et al. 2000. Characterization of human SCO1 and COX17 genes in mitochondrial cytochrome c oxidase deficiency. *Biochem. Biophys. Res. Commun.* 276: 530-533.
3. Punter, F.A., et al. 2000. Characterization and localization of human COX17, a gene involved in mitochondrial copper transport. *Hum. Genet.* 107: 69-74.
4. Suzuki, C., et al. 2003. Identification of COX17 as a therapeutic target for non-small cell lung cancer. *Cancer Res.* 63: 7038-7041.
5. Palumaa, P., et al. 2004. Metal-binding mechanism of COX17, a copper chaperone for cytochrome c oxidase. *Biochem. J.* 382: 307-314.
6. Maxfield, A.B., et al. 2004. COX17 is functional when tethered to the mitochondrial inner membrane. *J. Biol. Chem.* 279: 5072-5080.
7. Voronova, A., et al. 2007. Oxidative switches in functioning of mammalian copper chaperone COX17. *Biochem. J.* 408: 139-148.

CHROMOSOMAL LOCATION

Genetic locus: COX17 (human) mapping to 3q13.33.

PRODUCT

COX17 (h): 293T Lysate represents a lysate of human COX17 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

COX17 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive COX17 antibodies. Recommended use: 10-20 µl per lane.

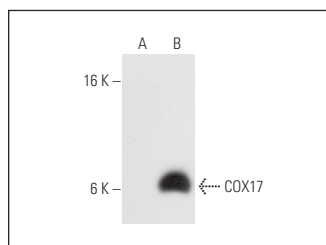
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

COX17 (F14): sc-100521 is recommended as a positive control antibody for Western Blot analysis of enhanced human COX17 expression in COX17 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



COX17 (F14): sc-100521. Western blot analysis of COX17 expression in non-transfected: sc-117752 (A) and human COX17 transfected: sc-111714 (B) 293T whole cell lysates.

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.