

SCO2 Antibody

Catalog # ASC10504

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	O43819
Other Accession	O43819 , 8134662
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	29810
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SCO2 antibody can be used for detection of SCO2 by Western blot at 0.5 - 2 μ g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	9997
Other Names	SCO2 Antibody: SCOD1, Protein SCO2 homolog, mitochondrial, SCO cytochrome oxidase deficient homolog 1 (yeast)
Target/Specificity	SCO1;
Reconstitution & Storage	SCO2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SCO2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SCO2
Function	Copper metallochaperone essential for the synthesis and maturation of cytochrome c oxidase subunit II (MT-CO2/COX2); together with SCO1, facilitates the incorporation of copper into the Cu(A) site of MT-CO2/COX2 (PubMed: 15229189 , PubMed: 17189203 , PubMed: 19336478 , PubMed: 35750769). Could also act as a thiol-disulfide oxidoreductase to regulate the redox state of the cysteines in SCO1 during maturation of MT-CO2/COX2 (PubMed: 19336478).
Cellular Location	Mitochondrion inner membrane; Single-pass membrane protein

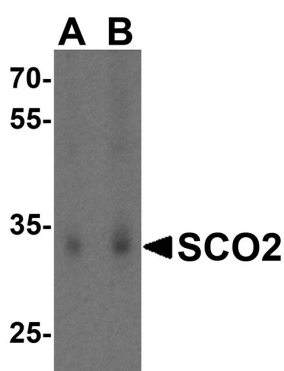
Background

SCO2 Antibody: Synthesis of cytochrome c oxidase 2 was initially identified in yeast as one of two cytochrome c oxidase (COX) assembly proteins that enable the assembly of cytochrome c holoenzyme, a complex that catalyzes the transfer of reducing equivalents from cytochrome c to molecular oxygen and pumps protons across the inner mitochondrial membrane. Like their yeast homologs, the function of both SCO2 and SCO1 are dependent on copper ion binding. Recent studies suggest that SCO2 expression is regulated by p53, so that a decrease in p53 expression, such as in numerous tumors and cells lines, the drop in SCO2 expression leads to a shift from normal aerobic respiration towards the production of glycolytic ATP. Defects in the SCO2 protein are also associated with fatal infantile cardioencephalomyopathy and COX deficiency.

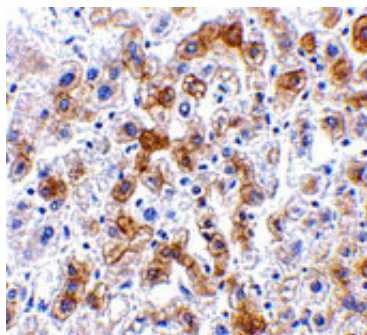
References

Glerum DM, Shtanko A, and Tzagoloff A. SCO1 and SCO2 act as high copy suppressors of a mitochondrial copper recruitment defect in *Saccharomyces cerevisiae*. *J. Biol. Chem.* 1996; 271:20531-5.
Horng Y-C, Leary SC, Cobine PA, et al. Human Sco1 and Sco2 function as copper-binding proteins. *J. Biol. Chem.* 2005; 280:34113-22.
Matoba S, Kang J-G, Patino WD, et al. p53 regulates mitochondrial respiration. *Science* 2006; 312:1650-3.
Papadopoulou LC, Sue CM, Davidson MM, et al. Fatal infantile cardioencephalomyopathy with COX deficiency and mutations in SCO2, a COX assembly gene. *Nat. Genetics* 1999; 23:333-7.

Images

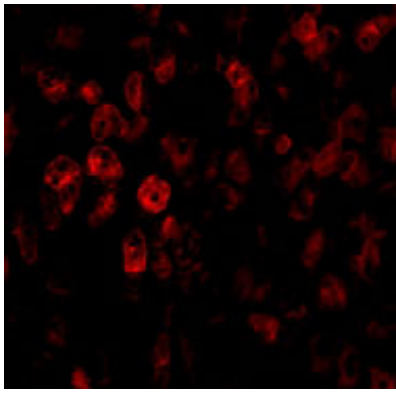


Western blot analysis of SCO2 in HL60 cell lysate with SCO2 antibody at (A) 1 and (B) 2 $\mu\text{g/mL}$.



Immunohistochemistry of SCO2 in human liver tissue with SCO2 antibody at 2.5 $\mu\text{g/mL}$.

Immunofluorescence of SCO2 in Human Liver tissue with SCO2 antibody at 20 $\mu\text{g/mL}$.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.