

SCO1 antibody (pAb)

Rabbit Anti-Human/Mouse/Rat SCO1

Instruction Manual

Catalog Number	PK-AB718-4043
Synonyms	SCO1 Antibody; SCO1, Synthesis of cytochrome c oxidase 1, cytochrome oxidase deficient homolog 1
Description	Synthesis of cytochrome c oxidase 1 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 SCO1 and SCO2 are dependent on copper ion binding. Mutations in either gene can lead to cytochrome c oxidase respiratory chain defects, with a missense mutation in human SCO1 (P174L) associated with a fatal neonatal hepatopathy when the second allele is also non-functional, suggesting the pathology is due to loss of function. It has been suggested that this mutation alters the SCO1 affinity for the copper (I) ion, thus impairing the efficiency of copper transfer to the cytochrome c oxidase. At least two isoforms of SCO1 are known to exist and both are recognized by the SCO1 antibody. This SCO1 antibody has no cross-reactivity to SCO2.
Quantity	100 µg
Source / Host	Rabbit
Immunogen	SCO1 antibody was raised against a 14 amino acid peptide from near the center of human SCO1.
Purification Method	Affinity chromatography purified via peptide column.
Clone / IgG Subtype	Polyclonal antibody
Species Reactivity	Human, Mouse, Rat
Specificity	
Formulation	Antibody is supplied in PBS containing 0.02% sodium azide.
Reconstitution	During shipment, small volumes of antibody will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 µl or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.
Storage & Stability	Antibody can be stored at 4°C for three months and at -20°C 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.
Applications	E, WB, IHC, IF Note: Antibody might be suitable for other applications not tested so far. Optimal concentrations for each application have to be determined individually. SCO1 antibody can be used for detection of SCO1 by Western blot at 0.5 - 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.
Images	Available upon request.
References	Glerum DM, Shtanko A, and Tzagoloff A. SCO1 and SCO2 act as high copy suppressors of a mitochondrial copper recruitment defect in <i>Saccharomyces cerevisiae</i> . <i>J. Biol. Chem.</i> 1996; 271:20531-5. Horng Y-C, Leary SC, Cobine PA, et al. Human Sco1 and Sco2 function as copper-binding proteins. <i>J. Biol. Chem.</i> 2005; 280:34113-22. Valnot I, Osmond S, Gigarel N. Mutations of the SCO1 gene in mitochondrial cytochrome c oxidase deficiency with neonatal-onset hepatic failure and encephalopathy. <i>Am. J. Hum. Genet.</i> 2000; 67:1104-9. Banci L, Bertini I, Ciofi-Baffoni S, et al. Human Sco1 functional studies and pathological implications of the P174L mutant. <i>Proc. Natl. Acad. Sci. USA</i> 2007; 104:15-20.
Images	Available upon request.
Related Products	Cat.No. PK-AB718-4043P; SCO1 Peptide Cat.No. PK-AB718-1303; Human Brain Tissue Lysate
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