

cytochrome b5 (K-18): sc-48470

BACKGROUND

Cytochrome b5 is a membrane-bound member of the cytochrome b family. A heme protein that functions as an electron carrier for many membrane-bound oxygenases, cytochrome b5 possesses two heme groups, which are not covalently attached to the protein. Two isoforms of cytochrome b5, a microsomal membrane-bound form and a cytoplasmic form, are produced by alternative splicing. Mutations in cytochrome b5 are associated with Leber's hereditary optic neuropathy and with myopathy.

REFERENCES

1. Abe, K., et al. 1985. Amino acid sequences of cytochrome b5 from human, porcine, and bovine erythrocytes and comparison with liver microsomal cytochrome b5. *J. Biochem.* 97: 1659-1668.
2. Yoo, M., et al. 1988. The complete nucleotide sequence of human liver cytochrome b5 mRNA. *Biochem. Biophys. Res. Commun.* 156: 576-580.
3. Giordano, S.J., et al. 1991. The human liver and reticulocyte cytochrome b5 mRNAs are products from a single gene. *Biochem. Biophys. Res. Commun.* 178: 38-44.
4. Hom, K., et al. 2000. NMR studies of the association of cytochrome b5 with cytochrome c. *Biochemistry* 39: 14025-14039.
5. Wang, Y.H., et al. 2001. The regulation of surface charged residues on the properties of cytochrome b5. *J. Protein Chem.* 20: 487-493.
6. Mapes, S., et al. 2002. Adrenocortical cytochrome b5 expression during fetal development of the rhesus macaque. *Endocrinology* 143: 1451-1458.
7. Reed, J.R. and Hollenberg, P.F. 2003. Examining the mechanism of stimulation of cytochrome P450 by cytochrome b5: the effect of cytochrome b5 on the interaction between cytochrome P450 2B4 and P450 reductase. *J. Inorg. Biochem.* 97: 265-275.
8. Zhang, Q., et al. 2004. The comparative study on the solution structures of the oxidized bovine microsomal cytochrome b5 and mutant V45H. *Protein Sci.* 13: 2161-2169.
9. Sun, N., et al. 2005. Enhancing the stability of microsomal cytochrome b5: a rational approach informed by comparative studies with the outer mitochondrial membrane isoform. *Protein Eng. Des. Sel.* 18: 571-579.

CHROMOSOMAL LOCATION

Genetic locus: CYB5A (human) mapping to 18q22.3; Cyb5 (mouse) mapping to 18 E4.

SOURCE

cytochrome b5 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of cytochrome b5 of human origin.

STORAGE

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

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-48470 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cytochrome b5 (K-18) is recommended for detection of cytochrome b5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

cytochrome b5 (K-18) is also recommended for detection of cytochrome b5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for cytochrome b5 siRNA (h): sc-37377, cytochrome b5 siRNA (m): sc-37378, cytochrome b5 shRNA Plasmid (h): sc-37377-SH, cytochrome b5 shRNA Plasmid (m): sc-37378-SH, cytochrome b5 shRNA (h) Lentiviral Particles: sc-37377-V and cytochrome b5 shRNA (m) Lentiviral Particles: sc-37378-V.

Molecular Weight of cytochrome b5: 15 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or mouse liver extract: sc-2256.

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) 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.

SELECT PRODUCT CITATIONS

1. Ji, B., et al. 2009. A comparative proteomics analysis of rat mitochondria from the cerebral cortex and hippocampus in response to antipsychotic medications. *J. Proteome Res.* 8: 3633-3641.

RESEARCH USE

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



Try **cytochrome b5 (36): sc-130311**, our highly recommended monoclonal alternative to cytochrome b5 (K-18).