# cytochrome b5 (L-19): sc-9513



The Power to Question

# **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**

- 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.
- Yoo, M., et al. 1988. The complete nucleotide sequence of human liver cytochrome b5 mRNA. Biochem. Biophys. Res. Commun. 156: 576-580.
- 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.
- Wang, Y.H., et al. 2001. The regulation of surface charged residues on the properties of cytochrome b5. J. Protein Chem. 20: 487-493.
- 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.
- 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: CYB5 (human) mapping to 18q22.3; Cyb5 (mouse) mapping to 18 E4.

# SOURCE

cytochrome b5 (L-19) 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  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9513 P, ( $100 \mu g$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

# **APPLICATIONS**

cytochrome b5 (L-19) 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 (L-19) 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) with UltraCruz™ Mounting Medium: sc-24941.

# **RESEARCH USE**

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

#### **PROTOCOLS**

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



Try **cytochrome b5 (36):** sc-130311, our highly recommended monoclonal alternative to cytochrome b5 (L-19).

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com