

CYB5D1 (T-14): sc-167567

BACKGROUND

Cytochrome b5 is a membrane-bound heme protein that possesses two heme groups and functions as an electron carrier for many membrane-bound oxygenases. Two isoforms of cytochrome b5, a microsomal membrane-bound form and a cytoplasmic form, are produced by alternative splicing. Mutations in the gene encoding cytochrome b5 are associated with Leber's hereditary optic neuropathy and myopathy. CYB5D1 (cytochrome b5 domain containing 1) is a 228 amino acid protein that exists as 2 alternatively spliced variants and contains one cytochrome b5 heme-binding domain, suggesting a similar function to cytochrome b5. The gene encoding CYB5D1 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

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.

CHROMOSOMAL LOCATION

Genetic locus: CYB5D1 (human) mapping to 17p13.1; Cyb5d1 (mouse) mapping to 11 B3.

SOURCE

CYB5D1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYB5D1 of human origin.

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-167567 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

CYB5D1 (T-14) is recommended for detection of CYB5D1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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); non cross-reactive with CYB5D2.

CYB5D1 (T-14) is also recommended for detection of CYB5D1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for CYB5D1 siRNA (h): sc-94068, CYB5D1 siRNA (m): sc-142650, CYB5D1 shRNA Plasmid (h): sc-94068-SH, CYB5D1 shRNA Plasmid (m): sc-142650-SH, CYB5D1 shRNA (h) Lentiviral Particles: sc-94068-V and CYB5D1 shRNA (m) Lentiviral Particles: sc-142650-V.

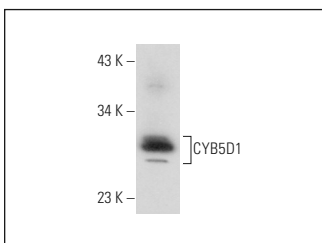
Molecular Weight of CYB5D1: 27 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CYB5D1 (T-14): sc-167567. Western blot analysis of CYB5D1 expression in human skeletal muscle tissue extract.

PROTOCOLS

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