

cytochrome b5 (36): sc-130311

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. and Steggles, A.W. 1988. The complete nucleotide sequence of human liver cytochrome b5 mRNA. *Biochem. Biophys. Res. Commun.* 156: 576-580.

CHROMOSOMAL LOCATION

Genetic locus: CYB5A (human) mapping to 18q22.3.

SOURCE

cytochrome b5 (36) is a mouse monoclonal antibody raised against recombinant cytochrome b5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cytochrome b5 (36) is available conjugated to agarose (sc-130311 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130311 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130311 PE), fluorescein (sc-130311 FITC), Alexa Fluor® 488 (sc-130311 AF488), Alexa Fluor® 546 (sc-130311 AF546), Alexa Fluor® 594 (sc-130311 AF594) or Alexa Fluor® 647 (sc-130311 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130311 AF680) or Alexa Fluor® 790 (sc-130311 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

cytochrome b5 (36) is recommended for detection of cytochrome b5 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

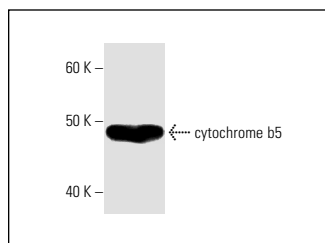
Molecular Weight of cytochrome b5: 15 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

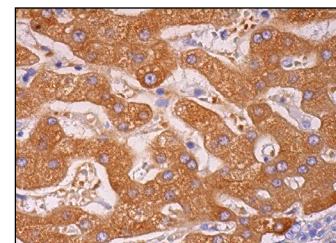
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BPHRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



cytochrome b5 (36): sc-130311. Western blot analysis of human recombinant cytochrome b5.



cytochrome b5 (36): sc-130311. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Wang, P.F., et al. 2018. Stereoselective ketamine metabolism by genetic variants of cytochrome P450 CYP2B6 and cytochrome P450 oxidoreductase. *Anesthesiology* 129: 756-768.
2. Piccolis, M., et al. 2019. Probing the global cellular responses to lipotoxicity caused by saturated fatty acids. *Mol. Cell* 74: 32-44.e8.
3. Zámbo, V., et al. 2020. Investigation of the putative rate-limiting role of electron transfer in fatty acid desaturation using transfected HEK293T cells. *FEBS Lett.* 594: 530-539.
4. Heintze, T., et al. 2021. Differential effects on human cytochromes P450 by CRISPR/Cas9-induced genetic knockout of cytochrome P450 reductase and cytochrome b5 in HepaRG cells. *Sci. Rep.* 11: 1000.

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.

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