SANTA CRUZ BIOTECHNOLOGY, INC.

CYP4B1 (E-13): sc-161511

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytochrome P450 proteins are heme-thiolate monooxygenases that mediate NADPH-dependent electron transport and function to oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. Specifically, Cytochrome P450s are responsible for metabolizing arachidonic acid to hydroxyeicosatetraenoic acid (a regulator of blood pressure) and epoxyeicosatrienoic acid (a molecule involved in signaling events). CYP4B1 (cytochrome P450, family 4, subfamily B, polypeptide 1), also known as CYP-IVB1 or P-450HP, is a 511 amino acid peripheral membrane protein of the endoplasmic reticulum and microsome that belongs to the cytochrome P450 family. Expressed in lung and liver, CYP4B1 is involved in NADPH-dependent electron transport pathway and oxidizes xenobiotics, fatty acids and steroids. CYP4B1 is encoded by a gene that maps to human chromosome 1p33 and exists as two alternatively spliced isoforms.

REFERENCES

1. Nhamburo, P.T., et al. 1989. Identification of a new P450 expressed in human lung: complete cDNA sequence, cDNA-directed expression, and chromosome mapping. Biochemistry 28: 8060-8066.
2. Yokotani, N., et al. 1990. cDNA cloning of cytochrome P-450 related to P-450p-2 from the cDNA library of human placenta. Gene structure and expression. Eur. J. Biochem. 187: 23-29.
3. Ito, O., et al. 2001. Effects of converting enzyme inhibitors on renal P-450 metabolism of arachidonic acid. Am. J. Physiol. Regul. Integr. Comp. Physiol. 280: R822-R830.
4. Lo-Guidice, J.M., et al. 2002. Genetic polymorphism of the human cytochrome P450 CYP4B1: evidence for a non-functional allelic variant. Pharmacogenetics 12: 367-374.
5. Carr, B.A., et al. 2003. Characterization of pulmonary CYP4B2, specific catalyst of methyl oxidation of 3-methylindole. Mol. Pharmacol. 63: 1137-1147.
6. Barbosa-Sicard, E., et al. 2005. Eicosapentaenoic acid metabolism by cytochrome P450 enzymes of the CYP2C subfamily. Biochem. Biophys. Res. Commun. 329: 1275-1281.

CHROMOSOMAL LOCATION

Genetic locus: CYP4B1 (human) mapping to 1p33; Cyp4b1 (mouse) mapping to 4 D1.

SOURCE

CYP4B1 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CYP4B1 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-161511 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CYP4B1 (E-13) is recommended for detection of CYP4B1 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).

CYP4B1 (E-13) is also recommended for detection of CYP4B1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CYP4B1 siRNA (h): sc-78985, CYP4B1 siRNA (m): sc-142728, CYP4B1 shRNA Plasmid (h): sc-78985-SH, CYP4B1 shRNA Plasmid (m): sc-142728-SH, CYP4B1 shRNA (h) Lentiviral Particles: sc-78985-V and CYP4B1 shRNA (m) Lentiviral Particles: sc-142728-V.

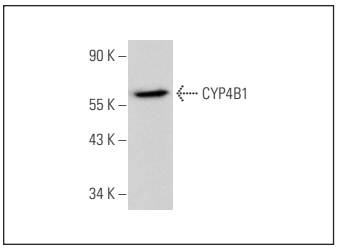
Molecular Weight of CYP4B1: 59 kDa.

Positive Controls: LADMAC whole cell lysates: sc-364189 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) 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



CYP4B1 (E-13): sc-161511. Western blot analysis of CYP4B1 expression in mouse liver tissue extract.

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.