SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2B1/2B2 (b/e3): sc-53242

BACKGROUND

The cytochrome P450 (CYP2) superfamily is one of three enzyme systems which metabolize the fatty acid arachadonic acid (AA) to vascular tone regulators. CYP2 are monooxygenase enzymes that require several cofactors such as nicotinamide adenine dinucleotide phosphate (NADPH) and P450 reductase. Epoxygenases are members of the CYP2 family that metabolize AA to epoxy-eicosatrienoic acid, and ω-hydroxylases are members of the CYP2 family that produce 19- and 20-hydroxyeicosatetraenoic acids. The CYP2 family members are part of the microsomal drug metabolising system responsible for oxidation of many therapeutic agents as well as steroids, fatty acids and many other endogenous substances. CYP2B10 is a member of the CYP2 family that comprise the major phenobarbital-inducible hepatic cytochromes P450s.

REFERENCES

1. Liu, S., et al. 2001. Functional analysis of the phenobarbital-responsive unit in rat CYP2B2. Biochem. Pharmacol. 62: 21-28.
2. Paquet, Y., et al. 2001. Mutational analysis of the CYP2B2 phenobarbital response unit and inhibitory effect of the constitutive androstane receptor on phenobarbital responsiveness. J. Biol. Chem. 275: 38427-38436.
3. Beaudet, M.J., et al. 2005. The CYP2B2 phenobarbital response unit contains binding sites for hepatocyte nuclear factor 4, PBX-PREP1, the thyroid hormone receptor β and the liver X receptor. Biochem. J. 388: 407-418.

CHROMOSOMAL LOCATION

Genetic locus: Cyp2b10 (mouse) mapping to 7 A3.

SOURCE

CYP2B1/2B2 (b/e3) is a mouse monoclonal antibody raised against liver cytochrome P450 2B1 and 2B2 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CYP2B1/2B2 (b/e3) is recommended for detection of CYP2B10 of mouse origin, and CYP2B1 and CYP2B2 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for CYP2B10 siRNA (m): 142671, CYP2B10 shRNA Plasmid (m): sc-142671-SH and CYP2B10 shRNA (m) Lentiviral Particles: sc-142671-V.

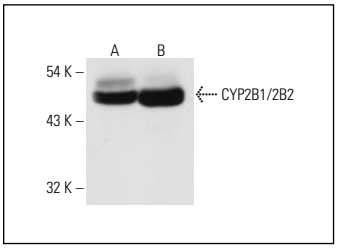
Molecular Weight of CYP2B1/2B2: 50 kDa.

Positive Controls: rat liver extract: sc-2395 or mouse liver extract: sc-2256.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (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).

DATA



CYP2B1/2B2 (b/e3): sc-53242. Western blot analysis of CYP2B1/2B2 expression in rat (**A**) and mouse (**B**) liver tissue extracts.

SELECT PRODUCT CITATIONS

1. Martin, P., et al. 2010. Effect of prototypical inducers on ligand activated nuclear receptor regulated drug disposition genes in rodent hepatic and intestinal cells. Acta Pharmacol. Sin. 31: 51-65.
2. Lu, Y.F., et al. 2013. Sex differences in the circadian variation of cytochrome p450 genes and corresponding nuclear receptors in mouse liver. Chronobiol. Int. 30: 1135-1143.
3. Yokotani, K., et al. 2014. *Coleus forskohlii* extract attenuates the hypoglycemic effect of tolbutamide *in vivo* via a hepatic cytochrome P450-mediated mechanism. Shokuhin Eiseigaku Zasshi 55: 73-78.
4. Gregoraszczuk, E.L., et al. 2015. Effects of 2,2',4,4'-tetrabromodiphenyl ether (BDE47) on the enzymes of phase I (CYP2B1/2) and phase II (SULT1A and COMT) metabolism, and differences in the action of parent BDE-47 and its hydroxylated metabolites, 5-OH-BDE-47 and 6-OH-BDE-47, on steroid secretion by luteal cells. Environ. Toxicol. Pharmacol. 40: 498-507.
5. Yang, H., et al. 2016. Sequestosome 1/p62 protein is associated with autophagic removal of excess hepatic endoplasmic reticulum in mice. J. Biol. Chem. 291: 18663-18674.
6. Mao, F., 2019. Increased sulfation of bile acids in mice and human subjects with sodium taurocholate cotransporting polypeptide deficiency. J. Biol. Chem. 294: 11853-11862.
7. Wang, F., et al. 2021. The ubiquitin E3 ligase TRIM21 promotes hepatocarcinogenesis by suppressing the p62-Keap1-Nrf2 antioxidant pathway. Cell. Mol. Gastroenterol. Hepatol. 11: 1369-1385.

STORAGE

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