SANTA CRUZ BIOTECHNOLOGY, INC.

CYP1A2 (S-18): sc-9835

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CYP1A2, also called Cytochrome P450 1A2, is a heme-thiolate monooxygenase enzyme involved in the NADPH-dependent electron transport pathway of liver microsomes. A member of the cytochrome P450 family, CYP1A2 oxidizes fatty acids, steroids and xenobiotics. It is also involved in the metabolism of imiprimine, propranol and clozapine. CYP1A2 localizes to the membrane of the endoplasmic reticulum. It is induced by 3-methylcholanthrene, Insulin, modafinil and hyperforin and inhibited by many fluoroquinolone antibiotics, caffeine, fluvoxamine and cimetidine. In addition, the involvement of CYP1A2 in the metabolism of estrogen is associated with a reduced risk of breast cancer.

REFERENCES

1. Botelho, L.H., et al. 1982. Amino-terminal and carboxy-terminal sequence of hepatic microsomal cytochrome P-450d, a unique hemoprotein from rats treated with isosafrole. Biochemistry 21: 1152-1155.
2. Sogawa, K., et al. 1985. Complete nucleotide sequence of a methylcholanthrene-inducible cyto-chrome P-450 (P-450d) gene in the rat. J. Biol. Chem. 260: 5026-5032.
3. Yabusaki, Y., et al. 1985. Characterization of complementary DNA clones coding for two forms of 3-methylcholanthrene-inducible rat liver cytochrome P-450. J. Biochem. 96: 793-804.
4. Haniu, M., et al. 1986. The primary structure of cytochrome P-450d purified from rat liver microsomes: prediction of helical regions and domain analysis. Arch. Biochem. Biophys. 244: 323-337.
5. Cheng, K.C., et al. 1986. Amino-terminal sequence and structure of monoclonal antibody immunopurified cytochromes P-450. Biochemistry 25: 2397-2402.
6. Wölfel, C., et al. 1992. Stable expression of rat cytochrome P450IA2 cDNA and hydroxylation of 17 β-estradiol and 2-aminofluorene in V79 Chinese hamster cells. Mol. Carcinog. 4: 489-498.

CHROMOSOMAL LOCATION

Genetic locus: Cyp1a2 (mouse) mapping to 9 B.

SOURCE

CYP1A2 (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP1A2 of mouse 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-9835 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.

APPLICATIONS

CYP1A2 (S-18) is recommended for detection of CYP1A2 of mouse and rat 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).

Suitable for use as control antibody for CYP1A2 siRNA (m): sc-41486, CYP1A2 shRNA Plasmid (m): sc-41486-SH and CYP1A2 shRNA (m) Lentiviral Particles: sc-41486-V.

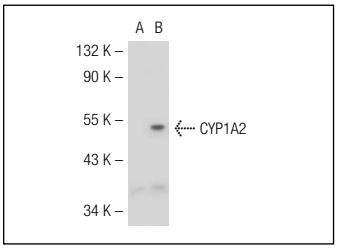
Molecular Weight of CYP1A2: 54 kDa.

Positive Controls: CYP1A2 (m): 293T Lysate: sc-119564 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



CYP1A2 (S-18): sc-9835. Western blot analysis of CYP1A2 expression in non-transfected: sc-117752 (**A**) and mouse CYP1A2 transfected: sc-119564 (**B**) 293T whole cell lysates.

RESEARCH USE

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