SANTA CRUZ BIOTECHNOLOGY, INC.

CYP1A2 (16VII F10F12): sc-73476

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 imipramine, 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

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3. Yabusaki, Y., et al. 1985. Characterization of complementary DNA clones coding for two forms of 3-methylcholanthrene-inducible rat liver cytochrome P450. J. Biochem. 96: 793-804.
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5. Cheng, K.C., et al. 1986. Amino-terminal sequence and structure of monoclonal antibody immunopurified cytochromes P450. Biochemistry 25: 2397-2402.
6. Wölfel, C., et al. 1992. Stable expression of rat cytochrome P450 1A2 cDNA and hydroxylation of 17 β-Estradiol and 2-aminofluorene in V79 Chinese hamster cells. Mol. Carcinog. 4: 489-498.
7. Yun, C.H., et al. 1992. Modification of cytochrome P450 1A2 enzymes by the mechanism-based inactivator 2-ethynylnaphthalene and the photoaffinity label 4-azidobiphenyl. Biochemistry 31: 10556-10563.
8. Mikhailova, O.N., et al. 2007. Enhancer elements in the mouse CYP1A2 gene: a comparative sequencing among different inbred mouse strains. Mutat. Res. 632: 99-103.
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CHROMOSOMAL LOCATION

Genetic locus: CYP1A2/CYP1A1 (human) mapping to 15q24.1; Cyp1a2/Cyp1a1 (mouse) mapping to 9 B.

SOURCE

CYP1A2 (16VII F10F12) is a mouse monoclonal antibody raised against liver cytochrome P450 1A2 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.

APPLICATIONS

CYP1A2 (16VII F10F12) is recommended for detection of CYP1A2 and, to a lesser extent, CYP1A1 of mouse, rat and human 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)]; not recommended for detection of rat CYP2A1, 2B1, 2B2, 2C6, 2C7, 2C11, 4A1, 4A2 and 4A3.

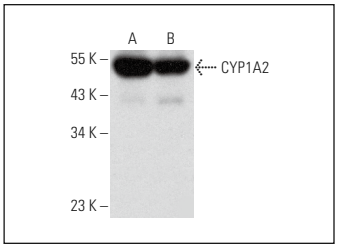
Molecular Weight of CYP1A2: 54 kDa.

Positive Controls: mouse liver extract: sc-2256, rat liver extract: sc-2395 or CYP1A2 (m): 293T Lysate: sc-119564.

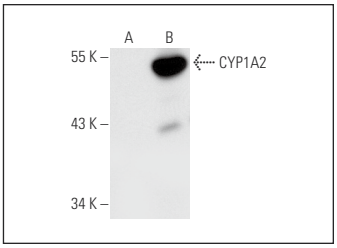
RECOMMENDED SUPPORT REAGENTS

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



CYP1A2 (16VII F10F12): sc-73476. Western blot analysis of CYP1A2 expression in mouse liver (**A**) and rat liver (**B**) tissue extracts.



CYP1A2 (16VII F10F12): sc-73476. Western blot analysis of CYP1A2 expression in non-transfected: sc-117752 (**A**) and mouse CYP1A2 transfected: sc-119564 (**B**) 293T whole cell lysates.

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.

PROTOCOLS

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