SANTA CRUZ BIOTECHNOLOGY, INC.

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

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

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2. Sogawa, K., et al. 1985. Complete nucleotide sequence of a methylcholanthrene-inducible cytochrome 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.
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.

CHROMOSOMAL LOCATION

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

PRODUCT

CYP1A2 (m): 293T Lysate represents a lysate of mouse CYP1A2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

CYP1A2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CYP1A2 antibodies. Recommended use: 10-20 µl per lane.

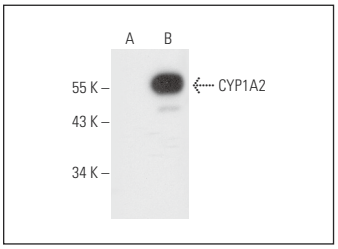
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CYP1A2 (F-7): sc-514044 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CYP1A2 expression in CYP1A2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



CYP1A2 (F-7): sc-514044. 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.

PROTOCOLS

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