

# CYP1A2 (F-7): sc-514044

## BACKGROUND

CYP1A2, also called Cytochrome P450 1A2, is a heme-thiolate mono-oxygenase 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 P4501A2 cDNA and hydroxylation of 17  $\beta$ -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-ethynyl-naphthalene and the photoaffinity label 4-azidobiphenyl. *Biochemistry* 31: 10556-10563.
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## CHROMOSOMAL LOCATION

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

## SOURCE

CYP1A2 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 431-458 within an internal region of CYP1A2 of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514044 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

CYP1A2 (F-7) is recommended for detection of CYP1A2 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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.

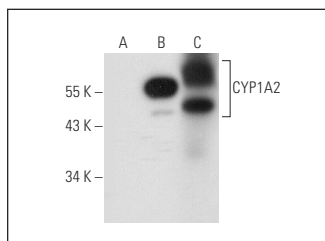
Molecular Weight of CYP1A2: 54 kDa.

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

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CYP1A2 (F-7): sc-514044. Western blot analysis of CYP1A2 expression in non-transfected 293T: sc-117752 (A) and mouse CYP1A2 transfected 293T: sc-119564 (B) whole cell lysates and mouse liver tissue extract (C).

## RESEARCH USE

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