

CYP2F1 (E-10): sc-377499

BACKGROUND

CYP2F1 (cytochrome P450 2F1) is a human-specific membrane-bound protein usually localized to the endoplasmic reticulum membrane. Cytochromes, which are incredibly polymorphic, generally catalyze redox reactions. CYP2F1 is a lung-specific cytochrome P450 (pigment at 450 nm) that is involved in metabolizing potentially carcinogenic pneumotoxins. Its polymorphic nature likely has an impact on the sensitivity of an individual to such toxins. Specifically within Clara cells, CYP2F1 converts Skatole (3-methylindole) to 3-methyleneindolenine, an electrophile that disrupts cell functions by forming dangerous protein adducts. Skatole has been used to supplement flavor in cigarettes. CYP2F2 is the murine homolog of human CYP2F1.

REFERENCES

1. Thomas, R.D., et al. 2006. Cytochrome P450 expression and metabolic activation of cooked food mutagen 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP) in MCF10A breast epithelial cells. *Chem. Biol. Interact.* 160: 204-216.
2. Tournel, G., et al. 2007. Molecular analysis of the CYP2F1 gene: identification of a frequent non-functional allelic variant. *Mutat. Res.* 617: 79-89.
3. Allagui, M.S., et al. 2007. Lithium toxicity and expression of stress-related genes or proteins in A549 cells. *Biochim. Biophys. Acta* 1773: 1107-1115.
4. Bièche, I., et al. 2007. Reverse transcriptase-PCR quantification of mRNA levels from cytochrome (CYP)1, CYP2 and CYP3 families in 22 different human tissues. *Pharmacogenet. Genomics* 17: 731-742.
5. Tournel, G., et al. 2007. CYP2F1 genetic polymorphism: identification of interethnic variations. *Xenobiotica* 37: 1433-1438.
6. Calaf, G.M., et al. 2007. Human drug metabolism genes in parathion-and estrogen-treated breast cells. *Int. J. Mol. Med.* 20: 875-881.

CHROMOSOMAL LOCATION

Genetic locus: CYP2F1 (human) mapping to 19q13.2; *Cyp2f2* (mouse) mapping to 7 A3.

SOURCE

CYP2F1 (E-10) is a mouse monoclonal antibody raised against amino acids 451-491 mapping at the C-terminus of CYP2F1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP2F1 (E-10) is available conjugated to agarose (sc-377499 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377499 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377499 PE), fluorescein (sc-377499 FITC), Alexa Fluor® 488 (sc-377499 AF488), Alexa Fluor® 546 (sc-377499 AF546), Alexa Fluor® 594 (sc-377499 AF594) or Alexa Fluor® 647 (sc-377499 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377499 AF680) or Alexa Fluor® 790 (sc-377499 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

CYP2F1 (E-10) is recommended for detection of CYP2F1 of human origin and CYP2F2 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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 CYP2F1 siRNA (h): sc-62182, CYP2F2 siRNA (m): sc-62183, CYP2F1 shRNA Plasmid (h): sc-62182-SH, CYP2F2 shRNA Plasmid (m): sc-62183-SH, CYP2F1 shRNA (h) Lentiviral Particles: sc-62182-V and CYP2F2 shRNA (m) Lentiviral Particles: sc-62183-V.

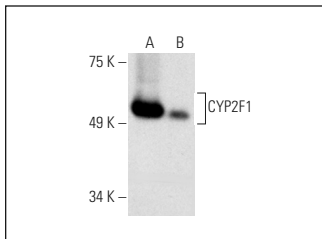
Molecular Weight of CYP2F1: 56 kDa.

Positive Controls: rat lung extract: sc-2396, mouse lung extract: sc-2390 or CYP2F2 (m2): 293T Lysate: sc-126691.

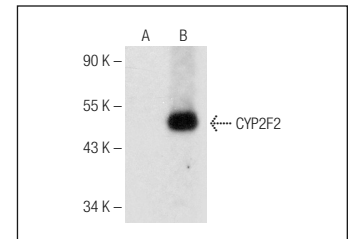
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



CYP2F1 (E-10): sc-377499. Western blot analysis of CYP2F1 expression in mouse lung (A) and rat lung (B) tissue extracts.



CYP2F1 (E-10): sc-377499. Western blot analysis of CYP2F2 expression in non-transfected: sc-117752 (A) and mouse CYP2F2 transfected: sc-126691 (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.

PROTOCOLS

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