

CYP2F2 (E-7): sc-374470

BACKGROUND

CYP2F2 (cytochrome P450 2F2) is a murine-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, CYP2F2 converts Naphthalene (commonly found in mothballs) to a glutathione-dihydronaphthalene conjugate which is implicated in causing necrosis in Clara cells. Naphthalene has a similar chemical structure to that of Skatole, which 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. Stoilov, I., et al. 2006. The cytochromes P450 (CYP) response to allergic inflammation of the lung. *Arch. Biochem. Biophys.* 456: 30-38.
3. Genter, M.B., et al. 2006. Naphthalene toxicity in mice and aryl hydrocarbon receptor-mediated CYPs. *Biochem. Biophys. Res. Commun.* 348: 120-123.
4. 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.
5. 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.
6. Kartha, J.S., et al. 2007. Mechanism-based inactivation of lung-selective cytochrome P450 CYP2F enzymes. *Drug Metab. Dispos.* 36: 155-162.
7. 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: Cyp2f2 (mouse) mapping to 7 A3.

SOURCE

CYP2F2 (E-7) is a mouse monoclonal antibody raised against amino acids 189-262 mapping within an internal region of CYP2F2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CYP2F2 (E-7) is recommended for detection of 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 CYP2F2 siRNA (m): sc-62183, CYP2F2 shRNA Plasmid (m): sc-62183-SH and CYP2F2 shRNA (m) Lentiviral Particles: sc-62183-V.

Molecular Weight of CYP2F2: 56 kDa.

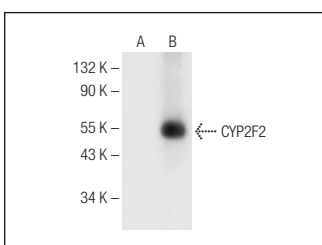
Positive Controls: CYP2F2 (m): 293T Lysate: sc-126690 or mouse lung extract: sc-2390.

RECOMMENDED SUPPORT REAGENTS

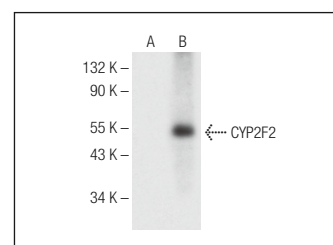
To ensure optimal results, the following support reagents are recommended:

- 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



CYP2F2 (E-7): sc-374470. Western blot analysis of CYP2F2 expression in non-transfected: sc-117752 (A) and mouse CYP2F2 transfected: sc-126690 (B) 293T whole cell lysates.



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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.