

# CYP2B6 (H-110): sc-67224

## BACKGROUND

CYP2B6 (cytochrome P450 2B6) is a 491 amino acid protein encoded by the human gene CYP2B6. CYP genes are highly polymorphic and can affect individual drug response and adverse reactions to a great extent. The CYP2B6 gene product, along with a few other CYP gene products, are highly susceptible to variation due to several copy number variants (CNV), missense mutations, insertions and deletions, and gene expression mutations. There are 57 active CYP genes and 58 pseudogenes known in the human genome. In liver microsomes, CYP2B6 is involved in an NADPH-dependent electron transport pathway. It acts to oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. CYP2B6 is expressed in liver, lung and heart and can be induced by phenobarbital.

## REFERENCES

- Hirose, S., et al. 2005. Transgenic rice containing human CYP2B6 detoxifies various classes of herbicides. *J. Agric. Food Chem.* 53: 3461-3467.
- Rotger, M., et al. 2005. Influence of CYP2B6 polymorphism on plasma and intracellular concentrations and toxicity of efa-virenz and nevirapine in HIV-infected patients. *Pharmacogenet. Genomics* 15: 1-5.
- Haberl, M., et al. 2005. Three haplotypes associated with CYP2A6 phenotypes in Caucasians. *Pharmacogenet. Genomics* 15: 609-624.
- Aleksa, K., et al. 2005. Cytochrome P450 3A and 2B6 in the developing kidney: implications for ifosfamide nephrotoxicity. *Pediatr. Nephrol.* 20: 872-885.
- Kimura, M., et al. 2005. CYP2A6 is a principal enzyme involved in hydroxylation of 1,7-dimethylxanthine, a main caffeine metabolite, in humans. *Drug Metab. Dispos.* 33: 1361-1366.
- Tong, K., et al. 2006. The implications of a high allelic frequency of CYP2B6 G516T in ethnic Chinese persons. *Clin. Infect. Dis.* 43: 541-542.
- Lu, H., et al. 2006. Stereoselectivity in metabolism of ifosfamide by CYP3A4 and CYP2B6. *Xenobiotica* 36: 367-385.

## CHROMOSOMAL LOCATION

Genetic locus: CYP2B6 (human) mapping to 19q13.2.

## SOURCE

CYP2B6 (H-110) is a rabbit polyclonal antibody raised against amino acids 186-295 mapping within an internal region of CYP2B6 of human origin.

## PRODUCT

Each vial contains 200 µg IgG 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.

## RESEARCH USE

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

## APPLICATIONS

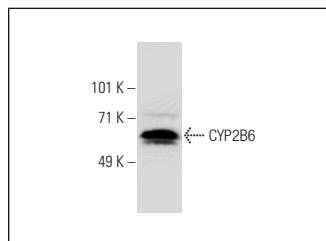
CYP2B6 (H-110) is recommended for detection of CYP2B6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 CYP2B6 siRNA (h): sc-62181, CYP2B6 shRNA Plasmid (h): sc-62181-SH and CYP2B6 shRNA (h) Lentiviral Particles: sc-62181-V.

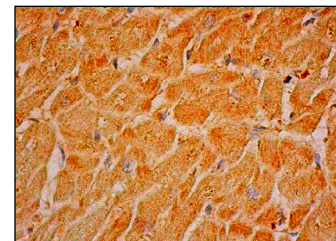
Molecular Weight of CYP2B6: 56 kDa.

Positive Controls: A549 cell lysate: sc-2413.

## DATA



CYP2B6 (H-110): sc-67224. Western blot analysis of CYP2B6 expression in A549 whole cell lysate.



CYP2B6 (H-110): sc-67224. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- Benet, M., et al. 2010. CCAAT/enhancer-binding protein  $\alpha$  (C/EBP $\alpha$ ) and hepatocyte nuclear factor 4 $\alpha$  (HNF4 $\alpha$ ) synergistically cooperate with constitutive androstane receptor to transactivate the human cytochrome P450 2B6 (CYP2B6) gene: application to the development of a metabolically competent human hepatic cell model. *J. Biol. Chem.* 285: 28457-28471.
- Lim, Y.P., et al. 2014. Allyl isothiocyanate (AITC) inhibits pregnane X receptor (PXR) and constitutive androstane receptor (CAR) activation and protects against acetaminophen- and amiodarone-induced cytotoxicity. *Arch. Toxicol.* 89: 57-72.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.