SANTA CRUZ BIOTECHNOLOGY, INC.

CYP1B1 (H-105): sc-32882

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytochrome P450 1B1 (CYP1B1) is a key enzyme involved in the production of potentially carcinogenic estrogen metabolites and the activation of environmental carcinogens and is the predominant member of the CYP1 family expressed in normal breast tissue and breast cancer. Estrogen has been proposed to trigger breast cancer development via an initiating mechanism involving its metabolite, catechol estrogen (CE). CYP1B1 catalyzes the conversion of 17-β-estradiol to the catechol estrogen metabolites 2-OH-E2 and 4-OH-E2, which have both been postulated to be involved in mammary carcinogenesis. Genetic polymorphisms in CYP1B1 may play an important role in human prostate carcinogenesis as well. Polymorphism of the CYP1B1 gene at codon 432 (Val→Leu) is associated with a change in catalytic function.

REFERENCES

1. Bailey, L.R., et al. 1998. Association of Cytochrome P450 1B1 (CYP1B1) polymorphism with steroid receptor status in breast cancer. Cancer Res. 58: 5038-5041.
2. Tang, Y.M., et al. 2000. Human CYP1B1 Leu432Val gene polymorphism: ethnic distribution in African-Americans, Caucasians and Chinese; oestradiol hydroxylase activity; and distribution in prostate cancer cases and controls. Pharmacogenetics 10: 761-766.

CHROMOSOMAL LOCATION

Genetic locus: CYP1B1 (human) mapping to 2p22.2; Cyp1b1 (mouse) mapping to 17 E3.

SOURCE

CYP1B1 (H-105) is a rabbit polyclonal antibody raised against amino acids 221-325 mapping within an internal region of CYP1B1 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.

APPLICATIONS

CYP1B1 (H-105) is recommended for detection of CYP1B1 of mouse, rat and 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 CYP1B1 siRNA (h): sc-44546, CYP1B1 siRNA (m): sc-44547, CYP1B1 shRNA Plasmid (h): sc-44546-SH, CYP1B1 shRNA Plasmid (m): sc-44547-SH, CYP1B1 shRNA (h) Lentiviral Particles: sc-44546-V and CYP1B1 shRNA (m) Lentiviral Particles: sc-44547-V.

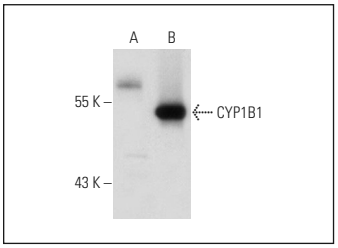
Molecular Weight of CYP1B1: 55 kDa.

Positive Controls: CYP1B1 (h): 293T Lysate: sc-158414 or mouse kidney extract: sc-2255.

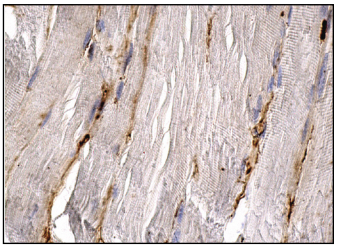
STORAGE

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

DATA



CYP1B1 (H-105): sc-32882. Western blot analysis of CYP1B1 expression in non-transfected: sc-117752 (**A**) and human CYP1B1 transfected: sc-158414 (**B**) 293T whole cell lysates.



CYP1B1 (H-105): sc-32882. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Schnyder, S., et al. 2009. Estrogen treatment induces MLL aberrations in human lymphoblastoid cells. Leuk. Res. 33: 1400-1404.
2. Dewa, Y., et al. 2009. Molecular expression analysis of β-naphthoflavone-induced hepatocellular tumors in rats. Toxicol. Pathol. 37: 446-455.
3. Conway, D.E., et al. 2009. Expression of CYP1A1 and CYP1B1 in human endothelial cells: regulation by fluid shear stress. Cardiovasc. Res. 81: 669-677.
4. Roos, R., et al. 2011. Hepatic effects of a highly purified 2,2',3,4,4',5,5'-heptachlorbiphenyl (PCB 180) in male and female rats. Toxicology 284: 42-53.
5. Song, M.K., et al. 2012. Formation of a 3,4-diol-1,2-epoxide metabolite of benz[a]anthracene with cytotoxicity and genotoxicity in a human *in vitro* hepatocyte culture system. Environ. Toxicol. Pharmacol. 33: 212-225.
6. Piotrowska, H., et al. 2012. Resveratrol analogue 3,4,4',5-tetramethoxystilbene inhibits growth, arrests cell cycle and induces apoptosis in ovarian SKOV-3 and A-2780 cancer cells. Toxicol. Appl. Pharmacol. 263: 53-60.
7. Stolpmann, K., et al. 2012. Activation of the aryl hydrocarbon receptor sensitises human keratinocytes for CD95L- and TRAIL-induced apoptosis. Cell Death Dis. 3: e388.

RESEARCH USE

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

PROTOCOLS

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