SANTA CRUZ BIOTECHNOLOGY, INC.

CYP1B1 (G-25): sc-133490

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.
3. De Vivo, I., et al. 2002. Association of CYP1B1 polymorphisms and breast cancer risk. Cancer Epidemiol. Biomarkers Prev. 11: 489-492.
4. Kocabas, N.A., et al. 2002. Cytochrome P450 CYP1B1 and catechol O-methyltransferase (COMT) genetic polymorphisms and breast cancer susceptibility in a Turkish population. Arch. Toxicol. 11: 643-649.
5. Saintot, M., et al. 2004. Interaction between genetic polymorphism of cytochrome P450-1B1 and environmental pollutants in breast cancer risk. Eur. J. Cancer Prev. 13: 83-86.

CHROMOSOMAL LOCATION

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

SOURCE

CYP1B1 (G-25) is an affinity purified rabbit polyclonal antibody raised against synthetic CYP1B1 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

CYP1B1 (G-25) 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)] 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.

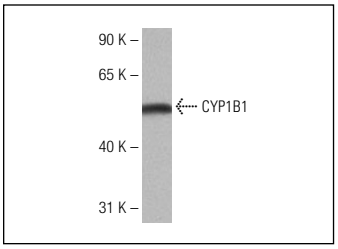
Molecular Weight of CYP1B1: 55 kDa.

Positive Controls: mouse kidney extract: sc-2255 or human fetal liver tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), 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).

DATA



CYP1B1 (G-25): sc-133490. Western blot analysis of CYP1B1 expression in human fetal liver tissue extract.

SELECT PRODUCT CITATIONS

1. Landsiedel, R., et al. 2011. Chemical toxicity testing *in vitro* using cytochrome P450-expressing cell lines, such as human CYP1B1. Nat. Protoc. 6: 677-687.

RESEARCH USE

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