SANTA CRUZ BIOTECHNOLOGY, INC.

CYP1B1 (h): 293T Lysate: sc-158414

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.

PRODUCT

CYP1B1 (h): 293T Lysate represents a lysate of human CYP1B1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

CYP1B1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CYP1B1 antibodies. Recommended use: 10-20 µl per lane.

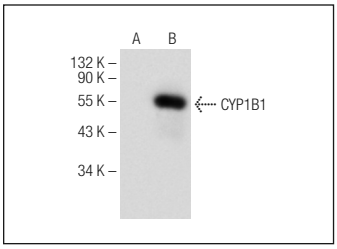
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CYP1B1 (G-4): sc-374228 is recommended as a positive control antibody for Western Blot analysis of enhanced human CYP1B1 expression in CYP1B1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



CYP1B1 (G-4): sc-374228. Western blot analysis of CYP1B1 expression in non-transfected: sc-117752 (**A**) and human CYP1B1 transfected: sc-158414 (**B**) 293T whole cell lysates.

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.