SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2S1 (h): 293T Lysate: sc-115127

BACKGROUND

The cytochrome P450 proteins are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies based on their sequence similarities. CYP2S1, a member of the CYP2 subfamily, is expressed in a wide variety of epithelial cells in extrahepatic tissues; specifically the respiratory tract, gastrointestinal tract, skin and other tissues frequently exposed to xenobiotics. CYP2S1 localizes to the endoplasmic reticulum where it metabolizes both endogenous and exogenous substrates, such as retinoic acid, aromatic hydrocarbons and some cellular substances. CYP2S1 is also involved in the metabolism of topical drugs and mediates the response to photochemo-therapy in psoriasis. Dioxin induces CYP2S1, while aryl hydrocarbon receptor (AHR) and aryl hydrocarbon nuclear translocator (ARNT) regulate this induction.

REFERENCES

1. Rylander, T., et al. 2001. Identification and tissue distribution of the novel human cytochrome P450 2S1 (CYP2S1). Biochem. Biophys. Res. Commun. 281: 529-535.
2. Smith, G., et al. 2003. Cutaneous expression of cytochrome P450 CYP2S1: individuality in regulation by therapeutic agents for psoriasis and other skin diseases. Lancet 361: 1336-1343.
3. Saarikoski, S.T., et al. 2004. Identification of genetic polymorphisms of CYP2S1 in a Finnish Caucasian population. Mutat. Res. 554: 267-277.
4. Choudhary, D., et al. 2005. Expression patterns of mouse and human CYP orthologs (families 1-4) during development and in different adult tissues. Arch. Biochem. Biophys. 436: 50-61.
5. Ingelman-Sundberg, M. 2005. The human genome project and novel aspects of cytochrome P450 research. Toxicol. Appl. Pharmacol. 207: 52-56.
6. Karlgren, M., et al. 2005. Novel extra-hepatic cytochrome P450s. Toxicol. Appl. Pharmacol. 207: 57-61.
7. Kumarakulasingham, M., et al. 2005. Cytochrome P450 profile of colorectal cancer: identification of markers of prognosis. Clin. Cancer Res. 11: 3758-3765.
8. Saarikoski, S.T., et al. 2005. CYP2S1: a short review. Toxicol. Appl. Pharmacol. 207: 62-69.
9. Saarikoski, S.T., et al. 2005. Localization of cytochrome P450 CYP2S1 expression in human tissues by *in situ* hybridization and immunohistochemistry. J. Histochem. Cytochem. 53: 549-556.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: CYP2S1 (human) mapping to 19q13.2.

PRODUCT

CYP2S1 (h): 293T Lysate represents a lysate of human CYP2S1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CYP2S1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CYP2S1 antibodies. Recommended use: 10-20 µl per lane.

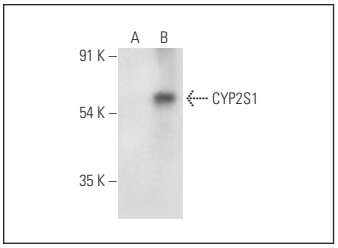
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

CYP2S1 (E-2): sc-398701 is recommended as a positive control antibody for Western Blot analysis of enhanced human CYP2S1 expression in CYP2S1 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



CYP2S1 (E-2): sc-398701. Western blot analysis of CYP2S1 expression in non-transfected: sc-117752 (**A**) and human CYP2S1 transfected: sc-115127 (**B**) 293T whole cell lysates.

RESEARCH USE

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