SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2S1 (A-1): sc-515464

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 photochemotherapy 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.

CHROMOSOMAL LOCATION

Genetic locus: CYP2S1 (human) mapping to 19q13.2; Cyp2s1 (mouse) mapping to 7 A3.

SOURCE

CYP2S1 (A-1) is a mouse monoclonal antibody raised against amino acids 141-275 mapping within an internal region of CYP2S1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP2S1 (A-1) is available conjugated to agarose (sc-515464 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515464 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515464 PE), fluorescein (sc-515464 FITC), Alexa Fluor® 488 (sc-515464 AF488), Alexa Fluor® 546 (sc-515464 AF546), Alexa Fluor® 594 (sc-515464 AF594) or Alexa Fluor® 647 (sc-515464 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515464 AF680) or Alexa Fluor® 790 (sc-515464 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CYP2S1 (A-1) is recommended for detection of CYP2S1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CYP2S1 siRNA (h): sc-60483, CYP2S1 siRNA (m): sc-60484, CYP2S1 shRNA Plasmid (h): sc-60483-SH, CYP2S1 shRNA Plasmid (m): sc-60484-SH, CYP2S1 shRNA (h) Lentiviral Particles: sc-60483-V and CYP2S1 shRNA (m) Lentiviral Particles: sc-60484-V.

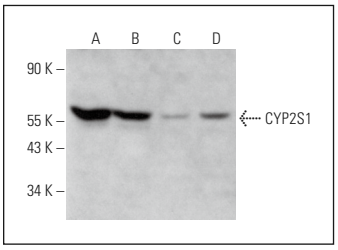
Molecular Weight of CYP2S1: 56 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, AMJ2-C8 whole cell lysate: sc-364366 or 3T3-L1 cell lysate: sc-2243.

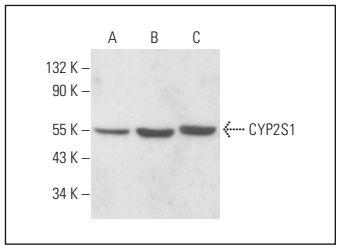
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CYP2S1 (A-1): sc-515464. Western blot analysis of CYP2S1 expression in NIH/3T3 (**A**), 3T3-L1 (**B**), AMJ2-C8 (**C**) and P 23 (**D**) whole cell lysates.



CYP2S1 (A-1): sc-515464. Western blot analysis of CYP2S1 expression in NIH/3T3 (**A**), RAW 264.7 (**B**) and A549 (**C**) whole cell lysates.

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.

PROTOCOLS

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