SANTA CRUZ BIOTECHNOLOGY, INC.

CYP1A2 (3B8C1): sc-53614

BACKGROUND

CYP1A2, also called cytochrome P450 1A2, is a heme-thiolate monooxygenase enzyme involved in the NADPH-dependent electron transport pathway of liver microsomes. A member of the cytochrome P450 family, CYP1A2 oxidizes fatty acids, steroids and xenobiotics. It is also involved in the metabolism of imiprimine, propranol and clozapine. CYP1A2 localizes to the membrane of the endoplasmic reticulum. It is induced by 3-methylcholanthrene, Insulin, modafinil and hyperforin and inhibited by many fluoroquinolone antibiotics, caffeine, fluvoxamine and cimetidine. In addition, the involvement of CYP1A2 in the metabolism of estrogen is associated with a reduced risk of breast cancer.

CHROMOSOMAL LOCATION

Genetic locus: CYP1A2 (human) mapping to 15q24.1; Cyp1a2 (mouse) mapping to 9 B.

SOURCE

CYP1A2 (3B8C1) is a mouse monoclonal antibody raised against cytochrome P450 protein of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP1A2 (3B8C1) is available conjugated to agarose (sc-53614 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53614 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53614 PE), fluorescein (sc-53614 FITC), Alexa Fluor® 488 (sc-53614 AF488), Alexa Fluor® 546 (sc-53614 AF546), Alexa Fluor® 594 (sc-53614 AF594) or Alexa Fluor® 647 (sc-53614 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53614 AF680) or Alexa Fluor® 790 (sc-53614 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CYP1A2 (3B8C1) is recommended for detection of CYP1A2 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CYP1A2 siRNA (h): sc-41485, CYP1A2 siRNA (m): sc-41486, CYP1A2 shRNA Plasmid (h): sc-41485-SH, CYP1A2 shRNA Plasmid (m): sc-41486-SH, CYP1A2 shRNA (h) Lentiviral Particles: sc-41485-V and CYP1A2 shRNA (m) Lentiviral Particles: sc-41486-V.

Molecular Weight of CYP1A2: 54 kDa.

Positive Controls: human liver extract: sc-363766.

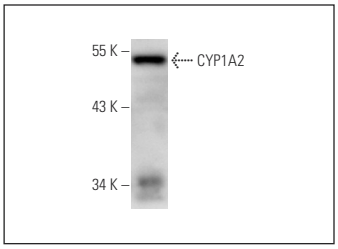
RESEARCH USE

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

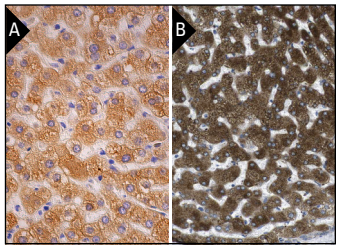
STORAGE

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

DATA



CYP1A2 (3B8C1): sc-53614. Western blot analysis of CYP1A2 expression in human liver tissue extract.



CYP1A2 (3B8C1): sc-53614. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining in hepatocytes and bile duct cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Tanaka, S., et al. 2011. Oxidative stress pathways in noncancerous human liver tissue to predict hepatocellular carcinoma recurrence: a prospective, multicenter study. Hepatology 54: 1273-1281.
2. Kubešová, K., et al. 2016. Mixed-ligand copper(II) complexes activate aryl hydrocarbon receptor AhR and induce CYP1A genes expression in human hepatocytes and human cell lines. Toxicol. Lett. 255: 24-35.
3. Freyer, N., et al. 2016. Hepatic differentiation of human induced pluripotent stem cells in a perfused three-dimensional multicompartment bioreactor. Biores. Open Access 5: 235-248.
4. Sciarra, A., et al. 2017. CYP1A2 is a predictor of HCC recurrence in HCV-related chronic liver disease: a retrospective multicentric validation study. Dig. Liver Dis. 49: 434-439.
5. Vrzal, R., et al. 2017. Activated thyroid hormone receptor modulates dioxin-inducible aryl hydrocarbon receptor-mediated CYP1A1 induction in human hepatocytes but not in human hepatocarcinoma HepG2 cells. Toxicol. Lett. 275: 77-82.
6. Pastorková, B., et al. 2017. Hydroxystilbenes and methoxystilbenes activate human aryl hydrocarbon receptor and induce CYP1A genes in human hepatoma cells and human hepatocytes. Food Chem. Toxicol. 103: 122-132.
7. Dusek, J., et al. 2017. Steviol, an aglycone of steviol glycoside sweeteners, interacts with the pregnane X (PXR) and aryl hydrocarbon (AHR) receptors in detoxification regulation. Food Chem. Toxicol. 109: 130-142.

PROTOCOLS

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