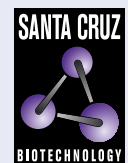


CYP27A1 (G-2): sc-390974



The Power to Question

BACKGROUND

P450 enzymes constitute a family of monooxygenase enzymes that are involved in the metabolism of a wide array of endogenous and xenobiotic compounds. P450 enzymes can be classified, based on their sequence similarities, into distinct subfamilies, which include CYP1A and CYP2A. Other P450 family members include CYP19, also designated aromatase (P450arom), which catalyzes the conversion of C19 steroids to estrogens in various tissues, including placenta, gonads, adipose tissue, skin and brain. CYP19 expression is controlled by hormonally regulated promoters in different tissues and increased aromatase activity is associated with familial gynecomastia. Also, a polymorphic allele of CYP19 (repeat (TTTA)₁₂) is present in a majority of breast cancer patients. P450 cholesterol 7 α -hydroxylase, CYP7A1, is the rate limiting enzyme of bile acid synthesis in the liver, and its expression is mediated by the bile acid receptor FXR. CYP27A1 catalyzes vitamin D₃ 25-hydroxylation and is localized to the mitochondria in kidney and liver.

CHROMOSOMAL LOCATION

Genetic locus: CYP27A1 (human) mapping to 2q35; Cyp27a1 (mouse) mapping to 1 C3.

SOURCE

CYP27A1 (G-2) is a mouse monoclonal antibody raised against amino acids 335-451 mapping within an internal region of CYP27A1 of human origin.

PRODUCT

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

CYP27A1 (G-2) is available conjugated to agarose (sc-390974 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390974 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390974 PE), fluorescein (sc-390974 FITC), Alexa Fluor[®] 488 (sc-390974 AF488), Alexa Fluor[®] 546 (sc-390974 AF546), Alexa Fluor[®] 594 (sc-390974 AF594) or Alexa Fluor[®] 647 (sc-390974 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390974 AF680) or Alexa Fluor[®] 790 (sc-390974 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CYP27A1 (G-2) is recommended for detection of CYP27A1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 CYP27A1 siRNA (h): sc-41500, CYP27A1 siRNA (m): sc-41501, CYP27A1 shRNA Plasmid (h): sc-41500-SH, CYP27A1 shRNA Plasmid (m): sc-41501-SH, CYP27A1 shRNA (h) Lentiviral Particles: sc-41500-V and CYP27A1 shRNA (m) Lentiviral Particles: sc-41501-V.

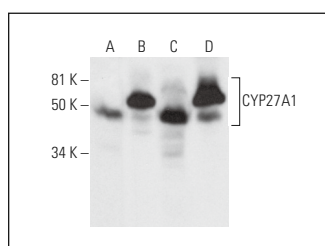
Molecular Weight of CYP27A1: 60 kDa.

Positive Controls: human liver extract: sc-363766, Hep G2 cell lysate: sc-2227 or Caco-2 cell lysate: sc-2262.

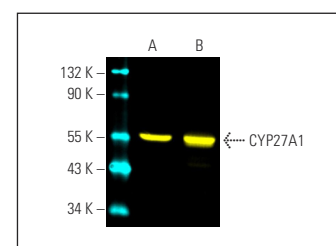
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



CYP27A1 (G-2): sc-390974. Western blot analysis of CYP27A1 expression in HUV-EC-C (A), Hep G2 (B) and Caco-2 (C) whole cell lysates and human liver tissue extract (D).



CYP27A1 (G-2) Alexa Fluor[®] 488: sc-390974 AF488. Direct fluorescent western blot analysis of CYP27A1 expression in Hep G2 whole cell lysate (A) and human liver tissue extract (B). Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker[™] MW Tag-Alexa Fluor[®] 647: sc-516791.

SELECT PRODUCT CITATIONS

- Cubillos, S. and Norgauer, J. 2016. Low vitamin D-modulated calcium-regulating proteins in psoriasis vulgaris plaques: S100A7 overexpression depends on joint involvement. *Int. J. Mol. Med.* 38: 1083-1092.
- Li, X., et al. 2022. Kaempferol acts on bile acid signaling and gut microbiota to attenuate the tumor burden in *Apc^{Min/+}* mice. *Eur. J. Pharmacol.* 918: 174773.
- Wang, R., et al. 2022. Inulin activates FXR-FGF15 signaling and further increases bile acids excretion in non-alcoholic fatty liver disease mice. *Biochem. Biophys. Res. Commun.* 600: 156-162.
- Ge, W., et al. 2023. Circadian PER1 controls daily fat absorption with the regulation of PER1-PKA on phosphorylation of bile acid synthetase. *J. Lipid Res.* 64: 100390.
- Yoo, H.J., et al. 2023. Perfluorooctanoic acid (PFOA) and hexafluoropropylene oxide-dimer acid (GenX): hepatic stress and bile acid metabolism with different pathways. *Ecotoxicol. Environ. Saf.* 259: 115001.

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.