SANTA CRUZ BIOTECHNOLOGY, INC.

CYP27A1 (P-17): sc-14835

SANTA CRUZ BIOTECHNOLOGY

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 7α-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 D_3 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 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CYP27A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14835 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CYP27A1 (P-17) is recommended for detection of CYP27A1 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 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: CYP27A1 (h): 293T Lysate: sc-112870.

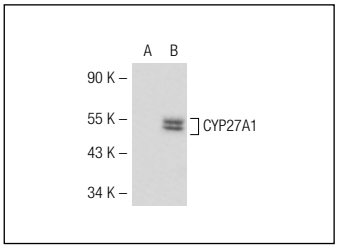
STORAGE

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

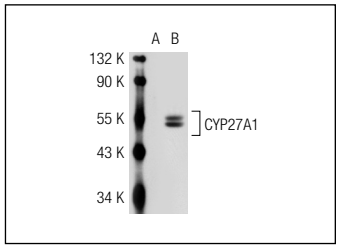
RESEARCH USE

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

DATA



CYP27A1 (P-17): sc-14835. Western blot analysis of CYP27A1 expression in non-transfected: sc-117752 (**A**) and human CYP27A1 transfected: sc-112870 (**B**) 293T whole cell lysates.



CYP27A1 (P-17): sc-14835. Western blot analysis of CYP27A1 expression in non-transfected: sc-117752 (**A**) and human CYP27A1 transfected: sc-116326 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tokar, E.J. and Webber, M.M. 2005. Chemoprevention of prostate cancer by cholecalciferol (vitamin D_3): 25-hydroxylase (CYP27A1) in human prostate epithelial cells. Clin. Exp. Metastasis 22: 265-273.
2. Tokar, E.J. and Webber, M.M. 2005. Cholecalciferol (vitamin D_3) inhibits growth and invasion by up-regulating nuclear receptors and 25-hydroxylase (CYP27A1) in human prostate cancer cells. Clin. Exp. Metastasis 22: 275-284.
3. Matusiak, D. and Benya, R.V. 2007. CYP27A1 and CYP24 expression as a function of malignant transformation in the colon. J. Histochem. Cytochem. 55: 1257-1264.
4. Gilardi, F., et al. 2009. Expression of sterol 27-hydroxylase in glial cells and its regulation by liver X receptor signaling. Neuroscience 164: 530-540.
5. Blomberg Jensen, M., et al. 2010. Vitamin D receptor and vitamin D metabolizing enzymes are expressed in the human male reproductive tract. Hum. Reprod. 25: 1303-1311.
6. Blomberg Jensen, M., et al. 2010. Expression of the vitamin D receptor, 25-hydroxylases, 1α-hydroxylase and 24-hydroxylase in the human kidney and renal clear cell cancer. J. Steroid Biochem. Mol. Biol. 121: 376-382.
7. Petta, S., et al. 2010. Low vitamin D serum level is related to severe fibrosis and low responsiveness to interferon-based therapy in genotype 1 chronic hepatitis C. Hepatology 51: 1158-1167.
8. Blomberg Jensen, M., et al. 2012. Vitamin D metabolism and effects on pluripotency genes and cell differentiation in testicular germ cell tumors *in vitro* and *in vivo*. Neoplasia 14: 952-963.