

CYP7A1 (C-20): sc-14426

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 D 25-hydroxylation and is localized to the mitochondria in kidney and liver.

REFERENCES

1. Nelson, D.R., et al. 1996. P450 superfamily: update on new sequences, gene mapping, accession numbers and nomenclature. *Pharmacogenetics* 6: 1-42.
2. Peterson, J.A., et al. 1997. P450BM-3; a tale of two domains—or is it three? *Steroids* 62: 117-123.
3. Bulun, S.E., et al. 1997. Endocrine disorders associated with inappropriately high aromatase expression. *J. Steroid Biochem. Mol. Biol.* 61: 133-139.
4. Braunstein, G.D. 1999. Aromatase and gynecomastia. *Endocr. Relat. Cancer* 6: 315-324.
5. Kristensen, V.N., et al. 2000. Genetic variants of CYP19 (aromatase) and breast cancer risk. *Oncogene* 19: 1329-1333.
6. Repa, J.J., et al. 2000. Regulation of absorption and ABC1-mediated efflux of cholesterol by RXR heterodimers. *Science* 289: 1524-1529.

CHROMOSOMAL LOCATION

Genetic locus: CYP7A1 (human) mapping to 8q12.1; Cyp7a1 (mouse) mapping to 4 A1.

SOURCE

CYP7A1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CYP7A1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-14426 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CYP7A1 (C-20) is recommended for detection of CYP7A1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CYP7A1 (C-20) is also recommended for detection of CYP7A1 in additional species, including equine, canine, bovine and porcine.

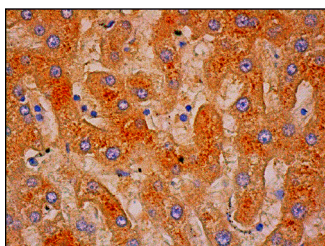
Suitable for use as control antibody for CYP7A1 siRNA (h): sc-41490, CYP7A1 siRNA (m): sc-41491, CYP7A1 shRNA Plasmid (h): sc-41490-SH, CYP7A1 shRNA Plasmid (m): sc-41491-SH, CYP7A1 shRNA (h) Lentiviral Particles: sc-41490-V and CYP7A1 shRNA (m) Lentiviral Particles: sc-41491-V.

Molecular Weight of CYP7A1: 58 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



CYP7A1 (C-20): sc-14426. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

RESEARCH USE

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

MONOS
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Try **CYP7A1 (8F1): sc-293193**, our highly recommended monoclonal alternative to CYP7A1 (C-20).