SANTA CRUZ BIOTECHNOLOGY, INC.

CYP24 (S-20): sc-32164

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. The P450 family member, CYP19, catalyzes the conversion of C19 steroids to estrogens in various tissues, including placenta, gonads, adipose tissue, skin and brain. 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 25-hydroxylation and is localized to the mitochondria in kidney and liver. Overexpression of CYP24 (encoding vitamin D 24 hydroxylase) is likely to lead to abrogation of growth control mediated by vitamin D.

CHROMOSOMAL LOCATION

Genetic locus: CYP24A1 (human) mapping to 20q13.2; Cyp24a1 (mouse) mapping to 2 H3.

SOURCE

CYP24 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CYP24 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-32164 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

CYP24 (S-20) is recommended for detection of mature CYP24 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CYP24 (S-20) is also recommended for detection of mature CYP24 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CYP24 siRNA (h): sc-44652, CYP24 siRNA (m): sc-44653, CYP24 shRNA Plasmid (h): sc-44652-SH, CYP24 shRNA Plasmid (m): sc-44653-SH, CYP24 shRNA (h) Lentiviral Particles: sc-44652-V and CYP24 shRNA (m) Lentiviral Particles: sc-44653-V.

Molecular Weight of CYP24: 59 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.

SELECT PRODUCT CITATIONS

1. 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.
2. Douard, V., et al. 2010. Dietary fructose inhibits intestinal calcium absorption and induces vitamin D insufficiency in CKD. J. Am. Soc. Nephrol. 21: 261-271.
3. Kong, B., et al. 2010. AZGP1 is a tumor suppressor in pancreatic cancer inducing mesenchymal-to-epithelial transdifferentiation by inhibiting TGF-β-mediated ERK signaling. Oncogene 29: 5146-5158.
4. Mukawa, C. and Taniguchi, T. 2012. Effects of propofol with hyperthermia in a rat model of endotoxemic shock. Acta Anaesthesiol. Scand. 56: 866-871.
5. Blomberg Jensen, M., et al. 2012. Expression of the vitamin D metabolizing enzyme CYP24A1 at the annulus of human spermatozoa may serve as a novel marker of semen quality. Int. J. Androl. 35: 499-510.

PROTOCOLS

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