

# CYP19 (H-18): sc-14244

## 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)<sub>12</sub>) is present in a majority of breast cancer patients. P450 cholesterol 7 $\alpha$ -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<sub>3</sub> 25-hydroxylation and is localized to the mitochondria in kidney and liver.

## CHROMOSOMAL LOCATION

Genetic locus: CYP19A1 (human) mapping to 15q21.2; Cyp19a1 (mouse) mapping to 9 A5.3.

## SOURCE

CYP19 (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP19 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-14244 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CYP19 (H-18) is recommended for detection of CYP19 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).

CYP19 (H-18) is also recommended for detection of CYP19 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CYP19 siRNA (h): sc-41498, CYP19 siRNA (m): sc-41499, CYP19 shRNA Plasmid (h): sc-41498-SH, CYP19 shRNA Plasmid (m): sc-41499-SH, CYP19 shRNA (h) Lentiviral Particles: sc-41498-V and CYP19 shRNA (m) Lentiviral Particles: sc-41499-V.

Molecular Weight (predicted) of CYP19: 58 kDa.

Molecular Weight (observed) of CYP19: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, rat ovary extract: sc-2399 or JAR cell lysate: sc-2276.

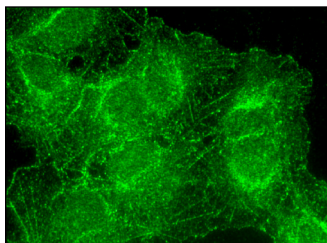
## RESEARCH USE

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



CYP19 (H-18): sc-14244. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Jesmin, S., et al. 2004. Gonadal hormones and frontocortical expression of vascular endothelial growth factor in male stroke-prone, spontaneously hypertensive rats, a model for attention-deficit/hyperactivity disorder. *Endocrinology* 145: 4330-4343.
- Gregoraszczyk, E.L., et al. 2011. Halowax 1051 affects steroidogenesis, 17 $\beta$ -hydroxysteroid dehydrogenase (17 $\beta$ -HSD) and cytochrome P450arom (CYP19) activity, and protein expression in porcine ovaries. *Reprod. Toxicol.* 32: 379-384.
- Caneguim, B.H., et al. 2013. Immunoexpression of aromatase and estrogen receptors  $\beta$  in stem spermatogonia of bullfrogs indicates a role of estrogen in the seasonal spermatogonial mitotic activity. *Gen. Comp. Endocrinol.* 182: 65-72.
- Karpeta, A., et al. 2013. The 2,2',4,4'-tetrabromodiphenyl ether hydroxylated metabolites 5-OH-BDE-47 and 6-OH-BDE-47 stimulate estradiol secretion in the ovary by activating aromatase expression. *Toxicology* 305: 65-70.
- Gregoraszczyk, E.L., et al. 2013. Supraphysiological leptin levels shift the profile of steroidogenesis in porcine ovarian follicles toward progesterone and testosterone secretion through increased expressions of CYP11A1 and 17 $\beta$ -HSD: a tissue culture approach. *Reproduction* 145: 311-317.
- Rak-Mardy, A.A., et al. 2013. Effects of resistin on porcine ovarian follicle steroidogenesis in prepubertal animals: an *in vitro* study. *Reprod. Biol. Endocrinol.* 11: 45.

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Try **CYP19 (E-9): sc-374176**, our highly recommended monoclonal alternative to CYP19 (H-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **CYP19 (E-9): sc-374176**.