# SANTA CRUZ BIOTECHNOLOGY, INC.

# CYP19 (E-9): sc-374176



# 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 CYP19 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  $7\alpha$ -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.

# SOURCE

CYP19 (E-9) is a mouse monoclonal antibody raised against amino acids 204-503 mapping at the C-terminus of CYP19 of human origin.

# PRODUCT

Each vial contains 200  $\mu g$  lgG\_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP19 (E-9) is available conjugated to agarose (sc-374176 AC), 500  $\mu$ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374176 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374176 PE), fluorescein (sc-374176 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374176 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374176 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374176 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374176 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374176 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374176 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

#### **APPLICATIONS**

CYP19 (E-9) is recommended for detection of CYP19 of human origin by Western Blotting (starting dilution 1:100, 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), 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).

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

Molecular Weight (predicted) of CYP19: 58 kDa.

Molecular Weight (observed) of CYP19: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HL-60 whole cell lysate: sc-2209 or human placenta extract: sc-363772.

#### STORAGE

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

# DATA





CYP19 (E-9): sc-374176. Near-infrared western blot analysis of CYP19 expression in human placenta tissue extract. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGk RP-CFL 680: sc-516180

CYP19 (E-9): sc-374176. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of trophoblastic cells.

#### **SELECT PRODUCT CITATIONS**

- Fuhrmeister, I.P., et al. 2014. Human granulosa cells: Insulin and Insulinlike growth factor-1 receptors and aromatase expression modulation by metformin. Gynecol. Obstet. Invest. 77: 156-162.
- da Costa, C.S., et al. 2019. The tributyltin leads to obesogenic mammary gland abnormalities in adult female rats. Toxicol. Lett. 307: 59-71.
- Ai, A., et al. 2019. Characterization and identification of human immortalized granulosa cells derived from ovarian follicular fluid. Exp. Ther. Med. 18: 2167-2177.
- Sarmento, I.V., et al. 2020. Subchronic and low dose of tributyltin exposure leads to reduced ovarian reserve, reduced uterine gland number, and other reproductive irregularities in female mice. Toxicol. Sci. 176: 74-85.
- 5. Hu, J., et al. 2020. ER01 $\alpha$  inhibits cell apoptosis and regulates steroidogenesis in mouse granulosa cells. Mol. Cell. Endocrinol. 511: 110842.
- Maia, J., et al. 2020. Title: the cannabinoid δ-9-tetrahydrocannabinol (THC) disrupts estrogen signaling in human placenta. Toxicol. Sci. 177: 420-430.
- Lopes, C., et al. 2020. Disruption of classical estrogenic targets in brown trout primary hepatocytes by the model androgens testosterone and dihydrotestosterone. Aquat. Toxicol. 227: 105586.
- Santos, D., et al. 2021. Multi-parametric portfolio to assess the fitness and gonadal maturation in four key reproductive phases of brown trout. Animals 11: 1290.
- Tang, T., et al. 2021. The function of BAP18 on modulation of androgen receptor action in luteinized granulosa cells from normal weight women with and without PCOS. Mol. Cell. Endocrinol. 527: 111228.

# **RESEARCH USE**

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

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