SANTA CRUZ BIOTECHNOLOGY, INC.

CYP17A1 (C-17): sc-46081

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cytochrome P450 proteins are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies, such as CYP1A, CYP2A, CYP2C, CYP2D, CYP4A14, CYP7A, CYP7B, CYP8B, CYP11A, CYP17A1, CYPI9 and CYP27A, based on sequence similarities. CYP17A (17α-hydroxylase/17,20-lyase) is important for the conversion of pregnenolone and progesterone to dehydroepiandrosterone (DHEA) and androstenedione. In this process, it catalyzes both the 17α-hydroxylation and the 17,20-lyase reaction. CYP17A1 is crucial during sexual development, both during fetal development and during puberty, and is intracellularly regulated by cAMP levels. Defects in the CYP17A1 gene, which encodes for the protein, may cause adrenal hyperplasia type V (AH-V) which is characterized by hypokalemia and hypertension. Male patients affected by AH-V do not undergo normal sexual differentiation and develop female external genitalia and do not undergo pubertal develoment.

CHROMOSOMAL LOCATION

Genetic locus: Cyp17a1 (mouse) mapping to 19 C3.

SOURCE

CYP17A1 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP17A1 of mouse 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-46081 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CYP17A1 (C-17) is recommended for detection of CYP17A1 of mouse and rat 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 CYP17A1 siRNA (m): sc-45642, CYP17A1 shRNA Plasmid (m): sc-45642-SH and CYP17A1 shRNA (m) Lentiviral Particles: sc-45642-V.

Molecular Weight of CYP17A1: 55 kDa.

Positive Controls: rat adrenal gland extract: sc-364802.

RESEARCH USE

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

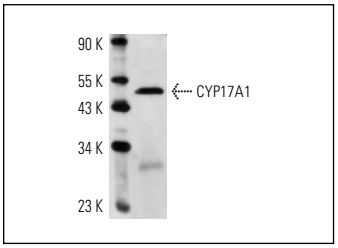
PROTOCOLS

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

STORAGE

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

DATA



CYP17A1 (C-17): sc-46081. Western blot analysis of CYP17A1 expression in rat adrenal gland tissue extract.

SELECT PRODUCT CITATIONS

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4. Sherrill, J.D., et al. 2010. Developmental exposures of male rats to soy isoflavones impact Leydig cell differentiation. Biol. Reprod. 83: 488-501.
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7. Nanjappa, M.K., et al. 2012. The industrial chemical bisphenol A (BPA) interferes with proliferative activity and development of steroidogenic capacity in rat Leydig cells. Biol. Reprod. 86: 135, 1-12.
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9. Miyado, M., et al. 2012. Mamld1 deficiency significantly reduces mRNA expression levels of multiple genes expressed in mouse fetal Leydig cells but permits normal genital and reproductive development. Endocrinology 153: 6033-6040.
10. Manca, P., et al. 2012. Cytochrome P450 17α-hydroxylase/C(17,20)-lyase immunoreactivity and molecular expression in the cerebellar nuclei of adult male rats. J. Chem. Neuroanat. 45: 18-25.
11. Zhong, L., et al. 2013. Research on the steroidogenesis of proliferated Leydig cells *in vitro*. J. Artif. Organs. 16: 229-233.