SANTA CRUZ BIOTECHNOLOGY, INC.

CYP17A1 (H-48): sc-66849

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 (17 α-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 17 α-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 (human) mapping to 10q24.32; Cyp17a1 (mouse) mapping to 19 C3.

SOURCE

CYP17A1 (H-48) is a rabbit polyclonal antibody raised against amino acids 461-508 mapping at the C-terminus of CYP17A1 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.

APPLICATIONS

CYP17A1 (H-48) is recommended for detection of CYP17A1 of human and, to a lesser extent, 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), 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).

CYP17A1 (H-48) is also recommended for detection of CYP17A1 in additional species, including equine, canine and feline.

Suitable for use as control antibody for CYP17A1 siRNA (h): sc-45641, CYP17A1 siRNA (m): sc-45642, CYP17A1 shRNA Plasmid (h): sc-45641-SH, CYP17A1 shRNA Plasmid (m): sc-45642-SH, CYP17A1 shRNA (h) Lentiviral Particles: sc-45641-V and CYP17A1 shRNA (m) Lentiviral Particles: sc-45642-V.

Molecular Weight of CYP17A1: 55 kDa.

Positive Controls: CYP17A1 (h2): 293T Lysate: sc-116774, SW-13 cell lysate: sc-24778 or ES-2 cell lysate: sc-24674.

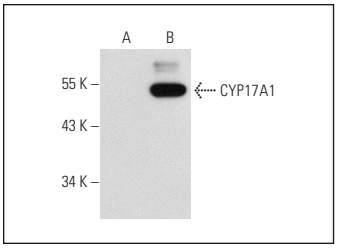
STORAGE

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

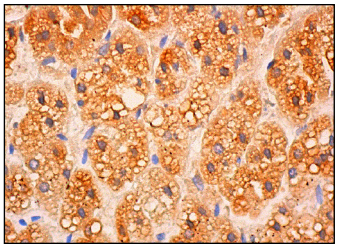
RESEARCH USE

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

DATA



CYP17A1 (H-48): sc-66849. Western blot analysis of CYP17A1 expression in non-transfected: sc-117752 (**A**) and human CYP17A1 transfected: sc-116774 (**B**) 293T whole cell lysates.



CYP17A1 (H-48): sc-66849. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Mikhaylova, I.V., et al. 2008. Leukemia inhibitory factor as a regulator of steroidogenesis in human NCI-H295R adrenocortical cells. J. Endocrinol. 199: 435-444.
2. Sedelaar, J.P., et al. 2009. Tissue culture media supplemented with 10% fetal calf serum contains a castrate level of testosterone. Prostate 69: 1724-1729.
3. Tkachenko, I.V., et al. 2011. Interleukins 1α and 1β as regulators of steroidogenesis in human NCI-H295R adrenocortical cells. Steroids 76: 1103-1115.
4. Schonemann, M.D., et al. 2012. Expression of P450c17 in the human fetal nervous system. Endocrinology 153: 2494-2505.

PROTOCOLS

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