SANTA CRUZ BIOTECHNOLOGY, INC.

CYP17A1 (M-80): sc-66850

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 pro-gesterone 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 hypo-kalemia and hypertension. Male patients affected by AH-V do not undergo normal sexual differentiation and develop female external genitalia and do not undergo pubertal development.

CHROMOSOMAL LOCATION

Genetic locus: CYP17A1 (human) mapping to 10q24.32; Cyp17a1 (mouse) mapping to 19 C3.

SOURCE

CYP17A1 (M-80) is a rabbit polyclonal antibody raised against amino acids 331-410 mapping near the C-terminus 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.

APPLICATIONS

CYP17A1 (M-80) is recommended for detection of CYP17A1 of mouse, rat and, to a lesser extent, human 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).

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: rat adrenal gland extract: sc-364802.

RESEARCH USE

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

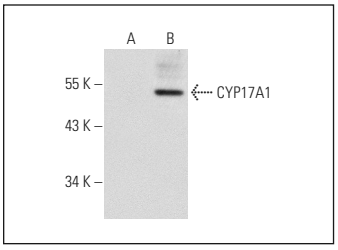
PROTOCOLS

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

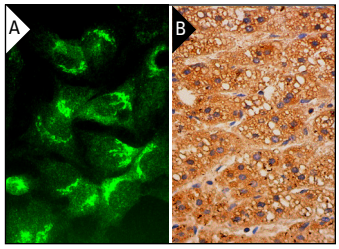
STORAGE

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

DATA



CYP17A1 (M-80): sc-66850. Western blot analysis of CYP17A1 expression in non-transfected: sc-117752 (**A**) and human CYP17A1 transfected: sc-116774 (**B**) 293T whole cell lysates.



CYP17A1 (M-80): sc-66850. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sivils, J.C., et al. 2010. Mice lacking Mrp1 have reduced testicular steroid hormone levels and alterations in steroid biosynthetic enzymes. Gen. Comp. Endocrinol. 167: 51-59.
2. Zhang, H., et al. 2010. Pubertal and early adult exposure to fenvalerate disrupts steroidogenesis and spermatogenesis in mice at adulthood. J. Appl. Toxicol. 30: 369-377.
3. Shang, T., et al. 2011. Toll-like receptor-initiated testicular innate immune responses in mouse Leydig cells. Endocrinology 152: 2827-2836.
4. Weisser, J., et al. 2011. Steroidogenesis and steroidogenic gene expression in postnatal fetal rat Leydig cells. Mol. Cell. Endocrinol. 341: 18-24.
5. Stojkov, N.J., et al. 2012. Repeated immobilization stress disturbed steroidogenic machinery and stimulated the expression of cAMP signaling elements and adrenergic receptors in Leydig cells. Am. J. Physiol. Endocrinol. Metab. 302: E1239-E1251.
6. Wang, H., et al. 2013. Maternal lead exposure during lactation persistently impairs testicular development and steroidogenesis in male offspring. J. Appl. Toxicol. 33: 1384-1394.

MONOS Satisfaction Guaranteed

Try **CYP17A1 (D-12): sc-374244** or **CYP17A1 (G-4): sc-376711**, our highly recommended monoclonal alternatives to CYP17A1 (M-80).