SANTA CRUZ BIOTECHNOLOGY, INC.

CYP11A1 (C-16): sc-18043

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The Power to Question

BACKGROUND

CYP11A1, also known as cytochrome P450C11A1, cytochrome P450^{scc} and cytochrome P450, subfamily XIA, is an enzyme that catalyzes the first step of steroid biosynthesis under the modulation of cAMP signal. CYP11A1 in steroidogenic cells converts cholesterol to pregnenolone, which is determined by hormonal control of cholesterol availability. Expression of the CYP11A1 gene is controlled by the transcription factor SF-1, and the upstream SF-1 binding site in the CYP11A1 gene is required for hormonal stimulation. c-Jun and SF-1 may act synergistically to activate CYP11A1 gene expression. Both Forskolin and 8-Br-cAMPS elevate CYP11A1 mRNA levels in the interstitial cell monolayer, which has a fully functional adenylate cyclase. The CYP11A1 protein is coexpressed with 3β-HSD2 in the rat hippocampus, dentate dyrus, cerebellar granular layer and Purkinje cells, indicating that neurosteriods are synthesized in a region-specific manner in the brain. CYP11A1 interacts with its physiological partner, adrenodoxin, by electrostatic interaction.

CHROMOSOMAL LOCATION

Genetic locus: CYP11A1 (human) mapping to 15q24.1; Cyp11a1 (mouse) mapping to 9 B.

SOURCE

CYP11A1 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP11A1 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.

Blocking peptide available for competition studies, sc-18043 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

CYP11A1 (C-16) is recommended for detection of CYP11A1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CYP11A1 siRNA (h): sc-41496, CYP11A1 siRNA (m): sc-41497, CYP11A1 shRNA Plasmid (h): sc-41496-SH, CYP11A1 shRNA Plasmid (m): sc-41497-SH, CYP11A1 shRNA (h) Lentiviral Particles: sc-41496-V and CYP11A1 shRNA (m) Lentiviral Particles: sc-41497-V.

Molecular Weight of CYP11A1: 60 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

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