SANTA CRUZ BIOTECHNOLOGY, INC.

CYP11B1 (G-14): sc-47647

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The steroid 11β-hydroxylase gene, also designated CYP11B1, is a marker for the functional differentiation of cells in the zonae fasciculata reticularis. The deduced protein CYP11B1 consists of 466 amino acids containing a secretory signal, epidermal growth factor-like repeats, and a proteolytically inactive cathepsin B-related sequence. A related protein, human aldosterone synthase (CYP11B2), is involved in substrate recognition and conversion, with a functionally significant residue 112 in the N-terminal region of human CYP11B2. The inherited disorder glucocorticoid-remediable aldosteronism is caused by a chimeric gene duplication between the CYP11B1 and CYP11B2 genes. This disorder is characterized by hyperaldosteronism and high levels of 18-hydroxycortisol and 18-oxocortisol, which are under ACTH control.

REFERENCES

1. Fardella, C.E., Pinto, M., Mosso, L., Gomez-Sanchez, C., Jalil, J. and Montero, J. 2001. Genetic study of patients with dexamethasone-suppressible aldosteronism without the chimeric CYP11B1/CYP11B2 gene. J. Clin. Endocrinol. Metab. 86: 4805-4807.
2. Bechtel, S., Belkina, N. and Bernhardt, R. 2002. The effect of amino-acid substitutions I112P, D147E and K152N in CYP11B2 on the catalytic activities of the enzyme. Eur. J. Biochem. 269: 1118-1127.
3. Mukai, K., Mitani, F., Nagasawa, H., Suzuki, R., Suzuki, T., Suematsu, M. and Ishimura, Y. 2003. An inverse correlation between expression of a preprocathepsin B-related protein with cysteine-rich sequences and steroid 11β-hydroxylase in adrenocortical cells. J. Biol. Chem. 278: 17084-17092.

CHROMOSOMAL LOCATION

Genetic locus: CYP11B2/CYP11B1 (human) mapping to 8q24.3.

SOURCE

CYP11B1 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP11B1 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-47647 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.

PROTOCOLS

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

APPLICATIONS

CYP11B1 (G-14) is recommended for detection of CYP11B1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 CYP11B1 siRNA (h): sc-44795, CYP11B1 shRNA Plasmid (h): sc-44795-SH and CYP11B1 shRNA (h) Lentiviral Particles: sc-44795-V.

Molecular Weight of CYP11B1: 48 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) 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

1. Fang, Y., Zhao, L., Chen, S., Cui, X., Zang, M., Chen, S. and Di, X. 2011. Expression of P-450(c11β) in adrenal aldosterone-producing adenomas and nodular hyperplasia tissues. Clin. Lab. 57: 245-251.