SANTA CRUZ BIOTECHNOLOGY, INC.

CYP11B1/2 (M-300): sc-135199

BACKGROUND

The steroid 11β-hydroxylase gene, also designated Cyp11b-1, 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 iscaused 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

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3. Mukai, K., et al. 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.
4. Ganapathipillai, S., et al. 2005. CYP11B2-CYP11B1 haplotypes associated with decreased 11 β-hydroxylase activity. J. Clin. Endocrinol. Metab. 90: 1220-1225.
5. Krone, N., et al. 2005. Congenital adrenal hyperplasia due to 11-hydroxylase deficiency: functional characterization of two novel point mutations and a three-base pair deletion in the CYP11B1 gene. J. Clin. Endocrinol. Metab. 90: 3724-3730.
6. Barr, M., et al. 2006. Functional effects of genetic variants in the 11β-hydroxylase (CYP11B1) gene. Clin. Endocrinol. 65: 816-825.
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8. Ye, P., et al. 2008. Effects of ACTH, dexamethasone, and adrenalectomy on 11β-hydroxylase (CYP11B1) and aldosterone synthase (CYP11B2) gene expression in the rat central nervous system. J. Endocrinol. 196: 305-311.
9. Yazawa, T., et al. 2008 Cyp11b1 is induced in the murine gonad by luteinizing hormone/human chorionic gonadotropin and involved in the production of 11-ketotestosterone, a major fish androgen: conservation and evolution of the androgen metabolic pathway. Endocrinology 149: 1786-1792.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: Cyp11b1/Cyp11b2 (mouse) mapping to 15 D3.

SOURCE

CYP11B1/2 (M-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of CYP11B1 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

CYP11B1/2 (M-300) is recommended for detection of CYP11B1 and CYP11B2 of mouse 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).

Molecular Weight of CYP11B1/2: 48 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.