

# CYP11B2 (K-16): sc-47655

## BACKGROUND

The steroid 11 $\beta$ -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-hydroxy-cortisol and 18-oxocortisol, which are under ACTH control.

## REFERENCES

- Fardella, C.E., et al. 2001. Genetic study of patients with dexamethasone-suppressible aldosteronism without the chimeric CYP11B1/CYP11B2 gene. *J. Clin. Endocrinol. Metab.* 86: 4805-4807.
- Bechtel, S., et al. 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.
- Russo, P., et al. 2002. Interaction between the C(-344)T polymorphism of CYP11B2 and age in the regulation of blood pressure and plasma aldosterone levels: cross-sectional and longitudinal findings of the Olivetti Prospective Heart Study. *J. Hypertens.* 20: 1785-1792.
- Yoshimura, M., et al. 2002. Expression of aldosterone synthase gene in failing human heart: quantitative analysis using modified real-time polymerase chain reaction. *J. Clin. Endocrinol. Metab.* 87: 3936-3940.
- Lim, P.O., et al. 2002. Variation at the aldosterone synthase (CYP11B2) locus contributes to hypertension in subjects with a raised aldosterone-to-renin ratio. *J. Clin. Endocrinol. Metab.* 87: 4398-4402.
- Ehmer, P.B., et al. 2002. Development of a test system for inhibitors of human aldosterone synthase (CYP11B2): screening in fission yeast and evaluation of selectivity in V79 cells. *J. Steroid Biochem. Mol. Biol.* 81: 173-179.
- Bulow, H.E. and Bernhardt, R. 2002. Analyses of the CYP11B gene family in the guinea pig suggest the existence of a primordial CYP11B gene with aldosterone synthase activity. *Eur. J. Biochem.* 269: 3838-3846.
- Mukai, K., et al. 2003. An inverse correlation between expression of a pre-procathepsin B-related protein with cysteine-rich sequences and steroid 11 $\beta$ -hydroxylase in adrenocortical cells. *J. Biol. Chem.* 278: 17084-17092.

## CHROMOSOMAL LOCATION

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

## SOURCE

CYP11B2 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP11B2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47655 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CYP11B2 (K-16) is recommended for detection of CYP11B2 of human origin by, 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).

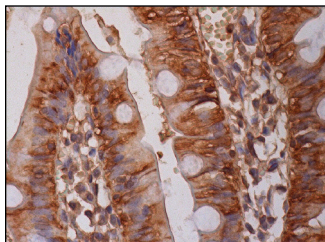
Suitable for use as control antibody for CYP11B2 siRNA (h): sc-44861, CYP11B2 shRNA Plasmid (h): sc-44861-SH and CYP11B2 shRNA (h) Lentiviral Particles: sc-44861-V.

Molecular Weight of CYP11B2: 49 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



CYP11B2 (K-16): sc-47655. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

## 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.