

# CYP21A2 (B-7): sc-518265

## 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 based on their sequence similarities. CYP21A2 localizes to the endoplasmic reticulum and hydroxylates steroids at the 21 position. Activity of CYP21A2 is required for the synthesis of steroid hormones, including cortisol and aldosterone. Mutations in this gene is the primary cause of congenital adrenal hyperplasia (CAH), an autosomal recessive disorder. Gene conversion events involving the functional CYP21A2 gene (C21B) and a related pseudogene (C21A) located near the C21B gene may account for the majority of cases of steroid 21-hydroxylase deficiency.

## REFERENCES

1. Chang, S.F. and Chung, B.C. 1995. Difference in transcriptional activity of two homologous CYP21A genes. *Mol. Endocrinol.* 9: 1330-1336.
2. Nelson, D.R., et al. 1996. P450 superfamily: update on new sequences, gene mapping, accession numbers and nomenclature. *Pharmacogenetics* 6: 1-42.
3. Peterson, J.A., et al. 1997. P450BM-3; a tale of two domains—or is it three? *Steroids* 62: 117-123.
4. Araujo, R.S., et al. 2005. Substitutions in the CYP21A2 promoter explain the simple-virilizing form of deficiency in patients harbouring a P30L mutation. *Clin. Endocrinol.* 62: 132-136.
5. Keen-Kim, D., et al. 2005. Validation and clinical application of a locus-specific polymerase chain reaction- and minisequencing-based assay for congenital adrenal hyperplasia (21 hydroxylase deficiency). *J. Mol. Diagn.* 7: 236-246.

## CHROMOSOMAL LOCATION

Genetic locus: CYP21A2 (human) mapping to 6p21.33; Cyp21a1 (mouse) mapping to 17 B1.

## SOURCE

CYP21A2 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 130-156 of CYP21A2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP21A2 (B-7) is available conjugated to agarose (sc-518265 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518265 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518265 PE), fluorescein (sc-518265 FITC), Alexa Fluor® 488 (sc-518265 AF488), Alexa Fluor® 546 (sc-518265 AF546), Alexa Fluor® 594 (sc-518265 AF594) or Alexa Fluor® 647 (sc-518265 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518265 AF680) or Alexa Fluor® 790 (sc-518265 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

CYP21A2 (B-7) is recommended for detection of CYP21A2 of human origin, and Cyp21a1 of mouse and rat origin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 CYP21A2 siRNA (h): sc-60478, Cyp21a1 siRNA (m): sc-142664, CYP21A2 shRNA Plasmid (h): sc-60478-SH, Cyp21a1 shRNA Plasmid (m): sc-142664-SH, CYP21A2 shRNA (h) Lentiviral Particles: sc-60478-V and Cyp21a1 shRNA (m) Lentiviral Particles: sc-142664-V.

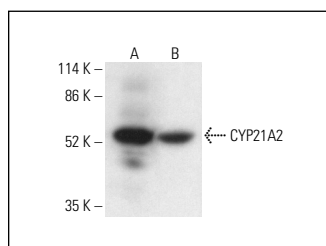
Molecular Weight of CYP21A2: 52 kDa.

Positive Controls: human adrenal gland extract: sc-363761 or rat adrenal gland extract: sc-364802.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CYP21A2 (B-7): sc-518265. Western blot analysis of CYP21A2 expression in human adrenal gland (A) and rat adrenal gland (B) tissue extracts. Detection reagent used: m-IgG<sub>1</sub> BP-HRP: sc-525408.

## 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.