10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CYP21A2 Rabbit pAb

Catalog # AP100131

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P08686
Other Accession	P08686
Reactivity	Rat
Predicted	Pig, Human, Mouse, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56001
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CYP21
Epitope Specificity	101-200/494
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the cytochrome P450 family.
DISEASE	Defects in CYP21A2 are the cause of adrenal hyperplasia type 3 (AH3) [MIM:201910]. AH3 is a form of congenital adrenal hyperplasia, a common recessive disease due to defective synthesis of cortisol. Congenital adrenal hyperplasia is characterized by androgen excess leading to ambiguous genitalia in affected females, rapid somatic growth during childhood in both sexes with premature closure of the epiphyses and short adult stature. Four clinical types: 'salt wasting' (SW, the most severe type), 'simple virilizing' (SV, less severely affected patients), with normal aldosterone biosynthesis, 'non-classic form' or late onset (NC or LOAH), and 'cryptic' (asymptomatic).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum and hydroxylates steroids at the 21 position. Its activity is required for the synthesis of steroid hormones including cortisol and aldosterone. Mutations in this gene cause congenital adrenal hyperplasia. A related pseudogene is located near this gene; gene conversion events involving the functional gene and the pseudogene are thought to account for many cases of steroid 21-hydroxylase deficiency. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq].

Additional Information

Gene ID	1589
Other Names	CA21H; CAH1; CPS1; CYP21; CYP21B; P450c21B; CP21A_HUMAN; CYP21A2;

	21-OHase; Cytochrome P-450c21; Cytochrome P450 21; Cytochrome P450 XXI; Cytochrome P450-C21; Cytochrome P450-C21B; 1.14.14.16; cytochrome P450 family 21 subfamily A member 2; cytochrome P450, subfamily XXIA (steroid 21-hydroxylase, congenital adrenal hyperplasia), polypeptide 2; cytochrome P450, family 21, subfamily A, polypeptide 2; Steroid 21-monooxygenase
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	CYP21A2
Synonyms	CYP21, CYP21B
Function	A cytochrome P450 monooxygenase that plays a major role in adrenal steroidogenesis. Catalyzes the hydroxylation at C-21 of progesterone and 17alpha-hydroxyprogesterone to respectively form 11- deoxycorticosterone and 11-deoxycortisol, intermediate metabolites in the biosynthetic pathway of mineralocorticoids and glucocorticoids (PubMed:10602386, PubMed:16984992, PubMed:22014889, PubMed:25855791, PubMed:27721825). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (CPR; NADPH-ferrihemoprotein reductase) (PubMed:25855791).
Cellular Location	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein

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