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CYP21A2 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7880c

Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	P08686
Reactivity	Human
Predicted	Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16954
Calculated MW	56001
Antigen Region	216-246

Additional Information

Gene ID	1589
Other Names	Steroid 21-hydroxylase, 21-OHase, Cytochrome P-450c21, Cytochrome P450 21, Cytochrome P450 XXI, Cytochrome P450-C21, Cytochrome P450-C21B, CYP21A2, CYP21, CYP21B
Target/Specificity	This CYP21A2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 216-246 amino acids from the Central region of human CYP21A2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CYP21A2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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

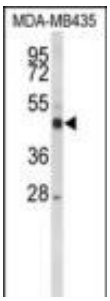
Background

CYP21A2 is 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 CYP21A2 gene cause congenital adrenal hyperplasia.

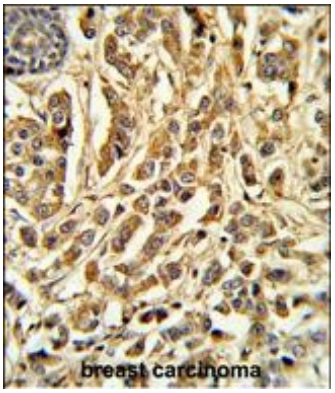
References

Guerra-Junior,G., Clin. Exp. Immunol. 155 (2), 182-188 (2009) Abid,F., Clin. Chem. Lab. Med. 46 (12), 1707-1713 (2008) Nelson,D.R., Pharmacogenetics 14 (1), 1-18 (2004)

Images

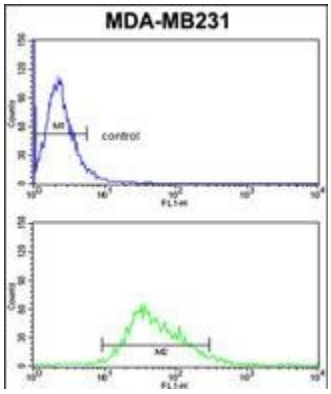


Western blot analysis of CYP21A2 Antibody (Center) (Cat. #AP7880c) in MDA-MB435 cell line lysates (35ug/lane). CYP21A2 (arrow) was detected using the purified Pab.

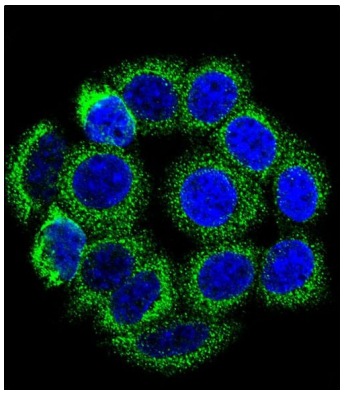


Formalin-fixed and paraffin-embedded human breast carcinoma reacted with HADHA Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

CYP21A2 Antibody (Center) (Cat. #AP7880c) flow cytometric analysis of MDA-MB231 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary



antibodies were used for the analysis.



Confocal immunofluorescent analysis of CYP21A2 Antibody (Center)(Cat#AP7880c) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).

Citations

- Steroidogenic enzyme expression in the human fetal liver and potential role in the endocrinology of pregnancy.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.