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CYP11B2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11213C

Specification

CYP11B2 Antibody (Center) - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P19099
Other Accession	NP_000489
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**120-147**

CYP11B2 Antibody (Center) - Additional Information

Gene ID 1585

Other Names
Cytochrome P450 11B2, mitochondrial, Aldosterone synthase, ALDOS, Aldosterone-synthesizing enzyme, CYPXIB2, Cytochrome P-450Aldo, Cytochrome P-450C18, Steroid 18-hydroxylase, CYP11B2

Target/Specificity
This CYP11B2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 120-147 amino acids from the Central region of human CYP11B2.

Dilution
WB~~1:2000
IHC-P~~1:25
FC~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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
CYP11B2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

CYP11B2 Antibody (Center) - Protein Information

Name CYP11B2 {ECO:0000303|PubMed:1346492, ECO:0000312|HGNC:HGNC:2592}

Function A cytochrome P450 monooxygenase that catalyzes the biosynthesis of aldosterone, the main mineralocorticoid in the human body responsible for salt and water homeostasis, thus involved in blood pressure regulation, arterial hypertension, and the development of heart failure (PubMed:11856349, PubMed:12530636, PubMed:1518866, PubMed:15356073, PubMed:1594605, PubMed:1775135, PubMed:22446688, PubMed:23322723, PubMed:9814482, PubMed:9814506). Catalyzes three sequential oxidative reactions of 11-deoxycorticosterone (21-hydroxyprogesterone), namely 11-beta hydroxylation, followed by two successive oxidations at C18 yielding 18-hydroxy and then 18-oxo intermediates (that would not leave the enzyme active site during the consecutive hydroxylation reactions), ending with the formation of aldosterone (PubMed:11856349, PubMed:12530636, PubMed:1518866, PubMed:1594605, PubMed:1775135, PubMed:22446688, PubMed:23322723, PubMed:9814506). Can also produce 18-hydroxycortisol and 18- oxocortisol, derived from successive oxidations of cortisol at C18, normally found at very low levels, but significantly increased in primary aldosteronism, the most common form of secondary hypertension (PubMed:15356073, PubMed:9814482). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate and reducing the second into a water molecule. Two electrons are provided by NADPH via a two-protein mitochondrial transfer system comprising flavoprotein FDXR (adrenodoxin/ferredoxin reductase) and nonheme iron-sulfur protein FDX1 or FDX2 (adrenodoxin/ferredoxin) (PubMed:11856349, PubMed:1594605, PubMed:23322723, PubMed:9814506). Could also be involved in the androgen metabolic pathway (Probable).

Cellular Location
Mitochondrion inner membrane {ECO:0000250|UniProtKB:P14137}; Peripheral membrane protein {ECO:0000250|UniProtKB:P14137}

Tissue Location
Expressed sporadically in the zona glomerulosa (zG) of the adrenal cortex (conventional zonation), as well as in aldosterone-producing cell clusters (APCCs) composed of morphological zG cells in contact with the capsule (variegated zonation)

CYP11B2 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CYP11B2 Antibody (Center) - Images

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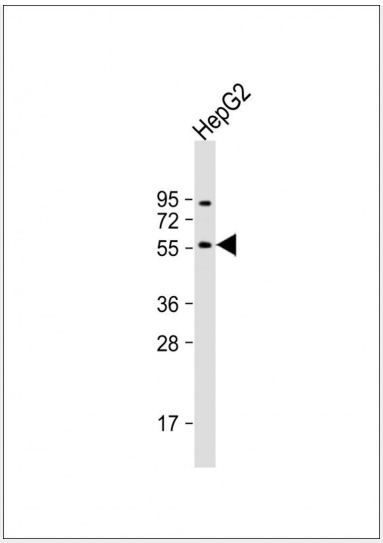
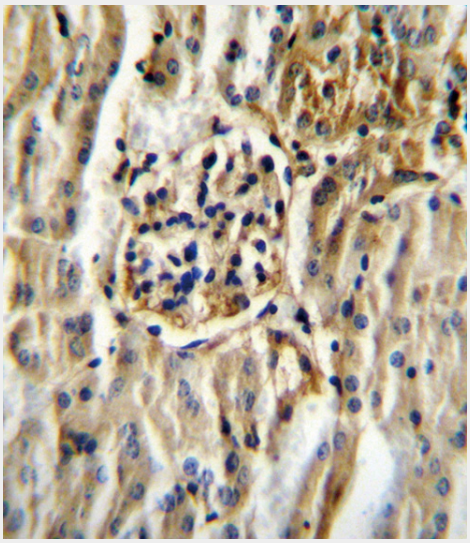


Anti-CYP11B2 Antibody (Center) at 1:2000 dilution + HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 58 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



CYP11B2 Antibody (Center) (Cat. #AP11213c)immunohistochemistry analysis in formalin fixed and paraffin embedded mouse kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of CYP11B2 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.

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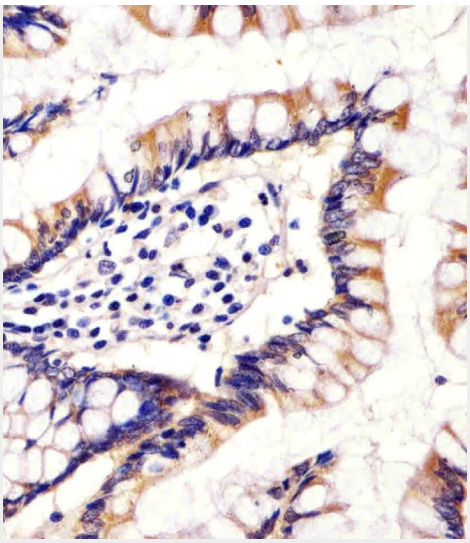
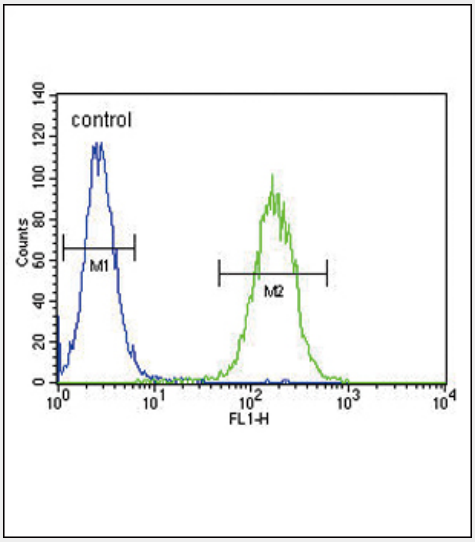


AP11213c staining CYP11B2 in human small intestine tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



CYP11B2 Antibody (Center) (Cat. #AP11213c) flow cytometric analysis of CEM cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

CYP11B2 Antibody (Center) - Background

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 mitochondrial inner membrane. The enzyme has steroid 18-hydroxylase activity to synthesize aldosterone and 18-oxocortisol as well as steroid 11 beta-hydroxylase activity. Mutations in this gene cause corticosterone methyl oxidase deficiency.

CYP11B2 Antibody (Center) - References

Wang, B., et al. Urology 76 (4), 1018 (2010) : Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Huriletemuer, H., et al. Neurosciences (Riyadh) 15(3):184-189(2010) Cheng, X., et al. Clin. Exp. Hypertens. 32(5):301-307(2010) Nelson, D.R., et al. Pharmacogenetics 14(1):1-18(2004)