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CYP11B2 Antibody (Center) Blocking peptide
Synthetic peptide
Catalog # BP11213c

Specification

CYP11B2 Antibody (Center) Blocking peptide - Product Information

Primary Accession P19099

CYP11B2 Antibody (Center) Blocking peptide - 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

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CYP11B2 Antibody (Center) Blocking peptide - 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:1775135, PubMed:1518866, PubMed:9814482, PubMed:15356073, PubMed:12530636, PubMed:22446688, PubMed:11856349, PubMed:23322723, PubMed:1594605, 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:1775135, PubMed:1518866, PubMed:12530636, PubMed:22446688, PubMed:11856349, PubMed:23322723, PubMed:1594605, 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) Blocking peptide - Protocols

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

- Blocking Peptides

CYP11B2 Antibody (Center) Blocking peptide - Images

CYP11B2 Antibody (Center) Blocking peptide - Background

This gene encodes a member of the cytochrome P450superfamily of enzymes. The cytochrome P450 proteins aremonooxygenases which catalyze many reactions involved in drugmetabolism and synthesis of cholesterol, steroids and other lipids.This protein localizes to the mitochondrial inner membrane. Theenzyme has steroid 18-hydroxylase activity to synthesizealdosterone and 18-oxocortisol as well as steroid 11beta-hydroxylase activity. Mutations in this gene causecorticosterone methyl oxidase deficiency.

CYP11B2 Antibody (Center) Blocking peptide - 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)