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CYP11A1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7899a

Product Information

Application	WB, E
Primary Accession	P05108
Other Accession	Q2XV99
Reactivity	Human
Predicted	Monkey, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16920
Calculated MW	60102
Antigen Region	88-120

Additional Information

Gene ID	1583
Other Names	Cholesterol side-chain cleavage enzyme, mitochondrial, CYPXIA1, Cholesterol desmolase, Cytochrome P450 11A1, Cytochrome P450(scc), CYP11A1, CYP11A
Target/Specificity	This CYP11A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 88-120 amino acids from the N-terminal region of human CYP11A1.
Dilution	WB~~1:1000 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	CYP11A1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CYP11A1 {ECO:0000303|PubMed:21636783, ECO:0000312|HGNC:HGNC:2590}
Function	A cytochrome P450 monooxygenase that catalyzes the side-chain

	hydroxylation and cleavage of cholesterol to pregnenolone, the precursor of most steroid hormones (PubMed:21636783). Catalyzes three sequential oxidation reactions of cholesterol, namely the hydroxylation at C22 followed with the hydroxylation at C20 to yield 20R,22R- hydroxycholesterol that is further cleaved between C20 and C22 to yield the C21-steroid pregnenolone and 4-methylpentanal (PubMed:21636783). 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:21636783).
Cellular Location	Mitochondrion inner membrane {ECO:0000250|UniProtKB:P14137}; Peripheral membrane protein. Note=Localizes to the matrix side of the mitochondrion inner membrane. {ECO:0000250|UniProtKB:P14137}

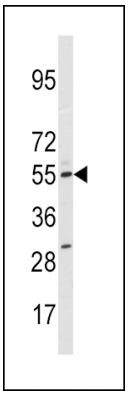
Background

CYP11A1 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 mitochondrial inner membrane and catalyzes the conversion of cholesterol to pregnenolone, the first and rate-limiting step in the synthesis of the steroid hormones.

References

Celhar,T., Cancer Genet. Cytogenet. 187 (1), 28-33 (2008)
Morales,A., Pancreas 37 (2), 165-169 (2008)
Shigematsu,K., Eur. J. Endocrinol. 158 (6), 867-878 (2008)

Images



Western blot analysis of anti-CYP11A1 Antibody (N-term) (Cat.#AP7899a) in HepG2 cell line lysates (35ug/lane). CYP11A1(arrow) was detected using the purified Pab.

Citations

- STARD6 is expressed in steroidogenic cells of the ovary and can enhance de novo steroidogenesis.

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