

Anti-CYP11A1 Antibody

Catalog # ABO11008

Product Information

Application	WB, IHC-P, IHC-F
Primary Accession	P05108
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cholesterol side-chain cleavage enzyme, mitochondrial(CYP11A1) detection. Tested with WB, IHC-P, IHC-F in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	1583
Other Names	Cholesterol side-chain cleavage enzyme, mitochondrial, 1.14.15.6, CYPXIA1, Cholesterol desmolase, Cytochrome P450 11A1, Cytochrome P450(scc), CYP11A1, CYP11A
Calculated MW	60102
Application Details	Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Human, - Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat Western blot, 0.1-0.5 µg/ml, Human
Subcellular Localization	Mitochondrion membrane.
Source	Eukaryota
Protein Name	Cholesterol side-chain cleavage enzyme, mitochondrial
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.05mg Na ₃ N.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human CYP11A1(507-521aa ISFTFWPFNQEATQQ).
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20° C for one year. After r° Constitution, at 4° C for one month. It° Can also

be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.

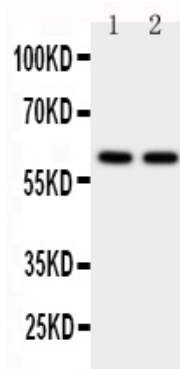
Protein Information

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

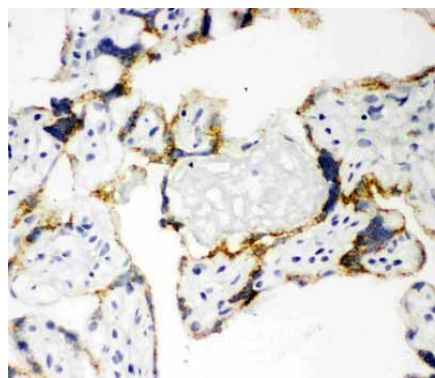
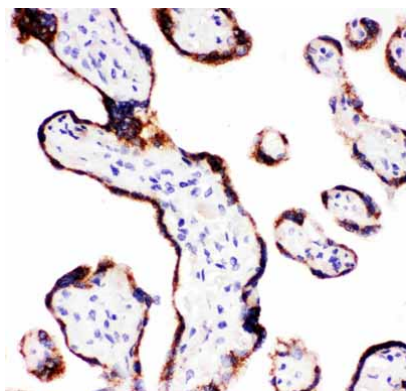
CYP11A1(Cytochrome p450, family 11, subfamily A, polypeptide 1), also called CYTOCHROME P450SCC, CYTOCHROME P450C11A1 or CYP11A, is a mitochondrial enzyme associated with the conversion of cholesterol to pregnenolone. CYP11A1 is a member of the cytochrome P450 superfamily of enzymes. The CYP11A1 gene is mapped on 15q24.1. Expression of the CYP11A1 gene may play a role in skin physiology and pathology and that cutaneous proopiomelanocortin activity may be autoregulated by a feedback mechanism involving glucocorticoids synthesized locally by Slominski et al. Using in vitro studies, CYP11A1 catalyzed the side-chain cleavage of 7-dehydrocholesterol to form 7-dehydropregnenolone. In addition, CYP11A1 catalyzed the metabolism of biologically inert vitamin D3, which is formed from 7-dehydrocholesterol, to form 2 hydroxylated products, 20-hydroxyvitamin D3 and 20, 22-dihydroxyvitamin D3. Mutations in the CYP11A1 gene cause congenital adrenal insufficiency with partial or complete 46, XY sex reversal.

Images



Anti-CYP11A1 antibody, ABO11008, Western blottingWB:
Human Placenta Tissue Lysate

Anti-CYP11A1 antibody, ABO11008, IHC(P)IHC(P): Human
Placenta Tissue



Anti-CYP11A1 antibody, ABO11008, IHC(F)IHC(F): Human Placenta Tissue

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