

**Anti-CYP11A1 Antibody**  
**Catalog # ABO11008****Specification**

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**Anti-CYP11A1 Antibody - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | WB, IHC-P, IHC-F       |
| Primary Accession | <a href="#">P05108</a> |
| 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.

**Anti-CYP11A1 Antibody - 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 MW KDa

**Application Details**

Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Human,  
-<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By  
Heat<br>Western blot, 0.1-0.5 µg/ml, Human<br>

**Subcellular Localization**

Mitochondrion membrane.

**Protein Name**

Cholesterol side-chain cleavage enzyme, mitochondrial

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**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.**

**Anti-CYP11A1 Antibody - 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:<a href="http://www.uniprot.org/citations/21636783" target="\_blank">21636783</a>). 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:<a href="http://www.uniprot.org/citations/21636783" target="\_blank">21636783</a>). 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:<a href="http://www.uniprot.org/citations/21636783" target="\_blank">21636783</a>).

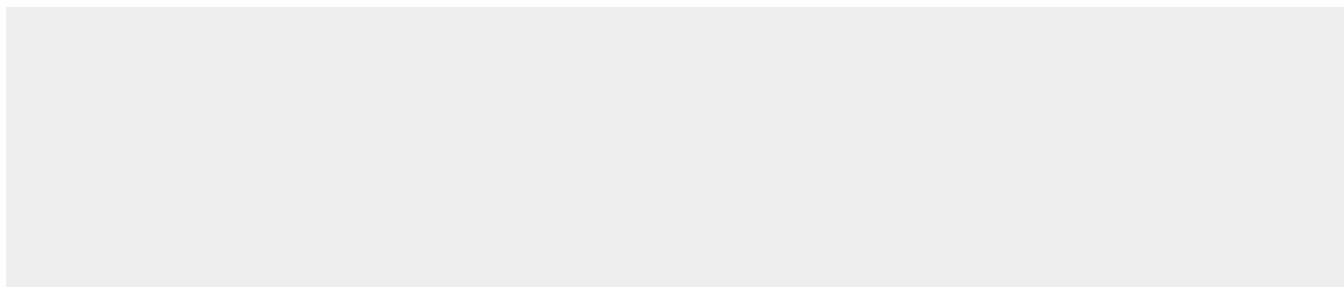
**Cellular Location**

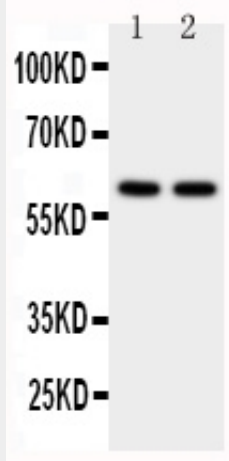
Mitochondrion inner membrane {ECO:0000250|UniProtKB:P14137}; Peripheral membrane protein. Note=Localizes to the matrix side of the mitochondrion inner membrane. {ECO:0000250|UniProtKB:P14137}

**Anti-CYP11A1 Antibody - Protocols**

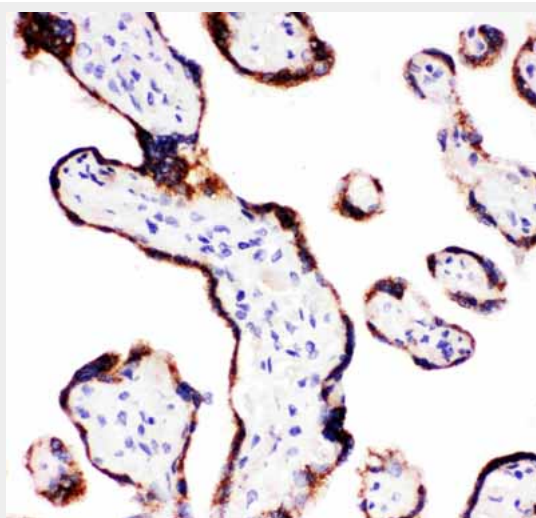
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

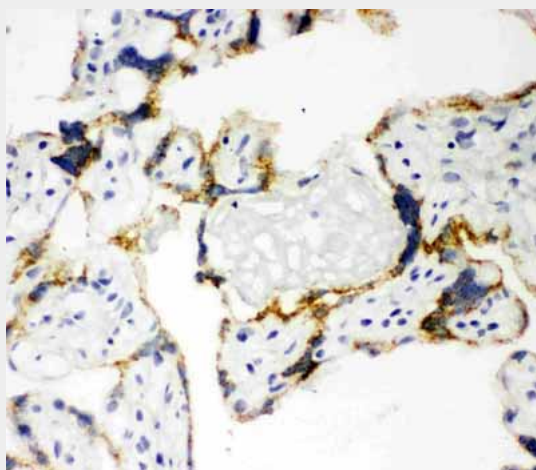
**Anti-CYP11A1 Antibody - Images**



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

#### **Anti-CYP11A1 Antibody - 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 D<sub>3</sub>, which is formed from 7-dehydrocholesterol, to form 2 hydroxylated products, 20-hydroxyvitamin D<sub>3</sub> and 20, 22-dihydroxyvitamin D<sub>3</sub>. Mutations in the CYP11A1 gene cause congenital adrenal insufficiency with partial or complete 46, XY sex reversal.