

Anti-CYP11A1 Picoband Antibody
Catalog # ABO12627**Specification**

Anti-CYP11A1 Picoband Antibody - Product Information

Application	WB
Primary Accession	P05108
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Cholesterol side-chain cleavage enzyme, mitochondrial(CYP11A1) detection. Tested with WB in Human;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-CYP11A1 Picoband 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

Western blot, 0.1-0.5 µg/ml, Human, Rat

Subcellular Localization

Mitochondrion membrane.

Protein Name

Cholesterol side-chain cleavage enzyme, mitochondrial

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg NaN₃.

Immunogen

E. coli-derived human CYP11A1 recombinant protein (Position: M333-A418). Human CYP11A1 shares 89.5% amino acid (aa) sequence identity with both mouse and rat CYP11A1.

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 Picoband 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: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

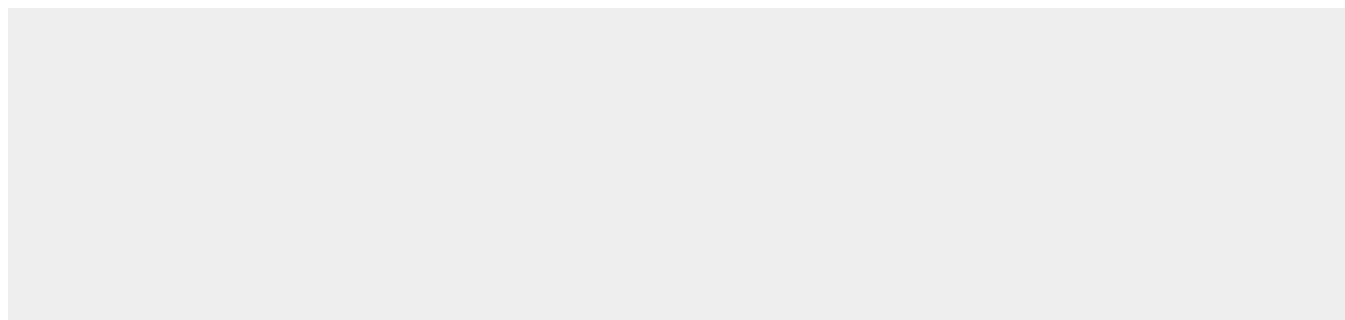
Mitochondrion inner membrane {ECO:0000250|UniProtKB:P14137}; Peripheral membrane protein. Note=Localizes to the matrix side of the mitochondrion inner membrane. {ECO:0000250|UniProtKB:P14137}

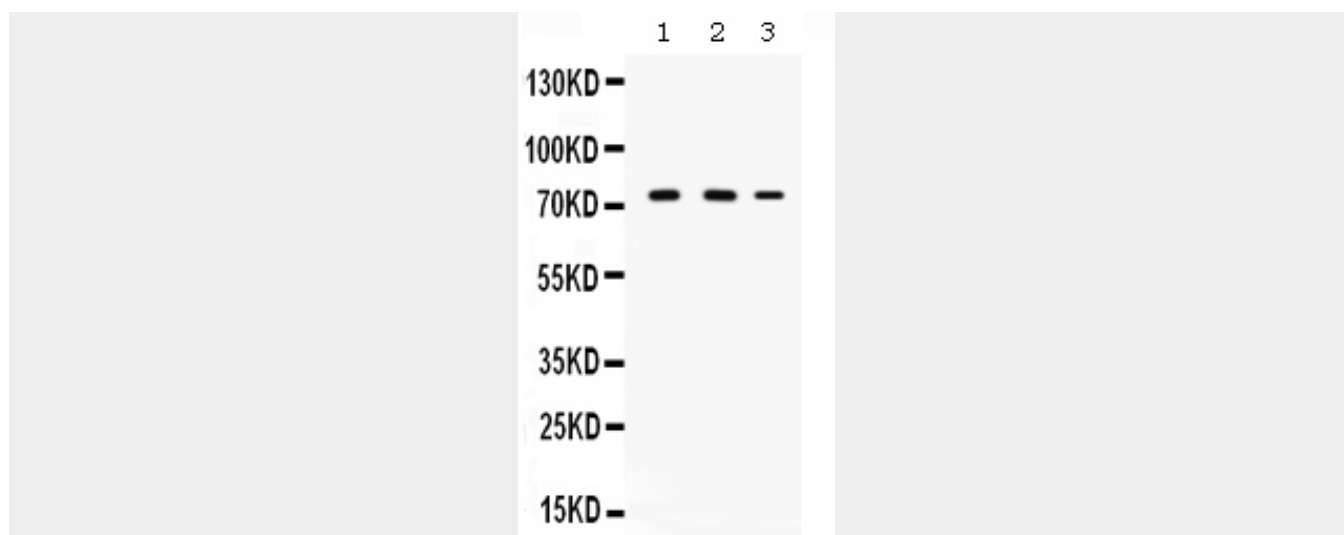
Anti-CYP11A1 Picoband Antibody - Protocols

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 Picoband Antibody - Images





Western blot analysis of CYP11A1 expression in rat brain extract (lane 1), rat kidney extract (lane 2) and 293T whole cell lysates (lane 3). CYP11A1 at 75KD was detected using rabbit anti-CYP11A1 Antigen Affinity purified polyclonal antibody (Catalog # ABO12627) at 0.5 µg/mL. The blot was developed using chemiluminescence (ECL) method .

Anti-CYP11A1 Picoband Antibody - Background

CYP11A1 (Cytochrome p450, family 11, subfamily A, polypeptide 1), commonly referred to as P450_{scc}, 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. 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.