

Anti-CYP11A1 Antibody

Catalog # ABO11009

Product Information

Application	WB
Primary Accession	Q9QZ82
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cholesterol side-chain cleavage enzyme, mitochondrial(CYP11A1) detection. Tested with WB in Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	13070
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	60315
Application Details	Western blot, 0.1-0.5 µg/ml, Mouse, Rat
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 Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of mouse CYP11A1(53-66aa DNGWLNLHYHFWRES), different from the related rat sequence by two amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20 °C for one year. After reconstitution, 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:0000312 MGI:MGI:88582}
Synonyms	Cyp11a
Function	A cytochrome P450 monooxygenase that catalyzes the side-chain hydroxylation and cleavage of cholesterol to pregnenolone, the precursor of most steroid hormones. 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. 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).
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, ABO11009, Western blotting
All lanes: Anti CYP11A1 (ABO11009) at 0.5ug/ml
Lane 1: Rat Testis Tissue Lysate at 50ug
Lane 2: Mouse Testis Tissue Lysate at 50ug
Lane 3: Mouse Brain Tissue Lysate at 50ug
Predicted bind size: 60KD
Observed bind size: 60KD

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