

Rabbit Anti-CYP11A1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP52081

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P05108
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60102

Additional Information

Gene ID	1583
Other Names	CYP11A; CYPXIA1; P45SCC; Cholesterol side-chain cleavage enzyme, mitochondrial; Cholesterol desmolase; Cytochrome P45 11A1; Cytochrome P45(scc); CYP11A1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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}

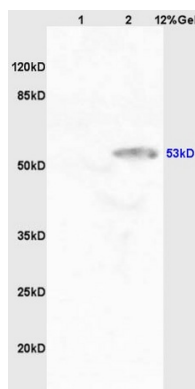
Background

Catalyzes the side-chain cleavage reaction of cholesterol to pregnenolone.

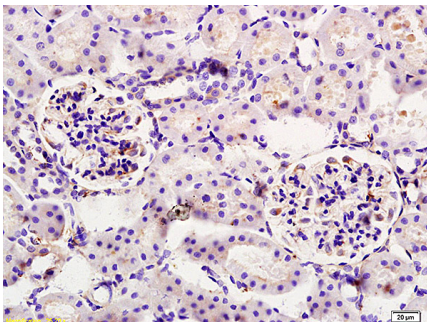
References

Chung B.-C.,et al.Proc. Natl. Acad. Sci. U.S.A. 83:8962-8966(1986).
Morohashi K.,et al.J. Biochem. 101:879-887(1987).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Zody M.C.,et al.Nature 440:671-675(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.

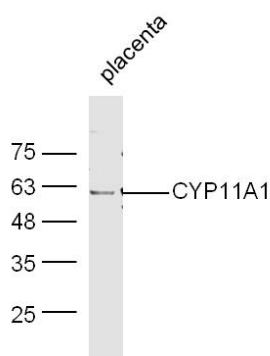
Images



Lane 1: mouse kidney lysates Lane 2: human kidney lysates probed with Anti CYP11A1/P450SCC Polyclonal Antibody, Unconjugated (AP52081) at 1:200 in 4 °C. Followed by conjugation to secondary antibody at 1:3000 90min in 37 °C. Predicted band 53/57kD. Observed band size: 53kD.



Formalin-fixed and paraffin embedded rat kidney tissue labeled with Anti CYP11A1/P450SCC Polyclonal Antibody, Unconjugated (AP52081) at 1:200 followed by conjugation to the secondary antibody and DAB staining.



Mouse placenta lysates probed with Rabbit Anti-CYP11A1 Polyclonal Antibody, Unconjugated (AP52081) at 1:300 overnight at 4 °C. Followed by conjugation to secondary antibody at 1:500 for 90 min at 37 °C.