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Cytochrome P450 17A1 Antibody

Rabbit mAb
Catalog # AP91937

Product Information

Application	WB, IF, FC, ICC, IP
Primary Accession	P05093
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	CPT7; CYP17; P450C17; S17AH; CYP17A1;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	57371

Additional Information

Dilution	WB 1:500~1:2000 ICC/IF 1:50~1:200 IP 1:50 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Cytochrome P450 17A1
Description	Conversion of pregnenolone and progesterone to their 17-alpha-hydroxylated products and subsequently to dehydroepiandrosterone (DHEA) and androstenedione.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

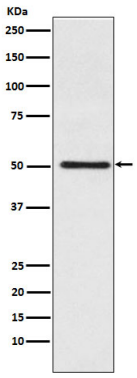
Protein Information

Name	CYP17A1 {ECO:0000303|PubMed:19793597, ECO:0000312|HGNC:HGNC:2593}
Function	A cytochrome P450 monooxygenase involved in corticoid and androgen biosynthesis (PubMed:22266943, PubMed:25301938, PubMed:27339894, PubMed:9452426). Catalyzes 17-alpha hydroxylation of C21 steroids, which is common for both pathways. A second oxidative step, required only for androgen synthesis, involves an acyl-carbon cleavage. The 17-alpha hydroxy intermediates, as part of adrenal glucocorticoids biosynthesis pathway, are precursors of cortisol (Probable) (PubMed:25301938, PubMed:9452426). Hydroxylates steroid hormones, pregnenolone and progesterone to form 17-alpha hydroxy metabolites, followed by the cleavage of the C17-C20 bond to form C19 steroids, dehydroepiandrosterone (DHEA) and androstenedione (PubMed:22266943, PubMed:25301938, PubMed:27339894, PubMed:36640554, PubMed:9452426). Has 16-alpha hydroxylase activity. Catalyzes 16-alpha hydroxylation of 17-alpha hydroxy pregnenolone, followed by the cleavage of the C17-C20 bond to form 16-alpha-hydroxy DHEA (PubMed:36640554). Also 16-alpha hydroxylates androgens, relevant for

estriol synthesis (PubMed:25301938, PubMed:27339894). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (CPR; NADPH-ferrihemoprotein reductase) (PubMed:22266943, PubMed:25301938, PubMed:27339894, PubMed:9452426).

Cellular Location Endoplasmic reticulum membrane. Microsome membrane

Images



Western blot analysis of Cytochrome P450 17A1 expression in Jurkat cell lysate.