10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CYP17A1 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP7879c

Specification

CYP17A1 Antibody (Center) Blocking Peptide - Product Information

Primary Accession P05093

CYP17A1 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 1586

Other Names
Steroid 17-alpha-hydroxylase/17, 20 lyase, 17-alpha-hydroxyprogesterone aldolase, CYPXVII, Cytochrome P450 17A1, Cytochrome P450-C17, Cytochrome P450c17, Steroid 17-alpha-monooxygenase, CYP17A1, CYP17, S17AH

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7879c was selected from the Center region of human CYP17A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CYP17A1 Antibody (Center) Blocking Peptide - 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:9452426, PubMed:27339894, PubMed:22266943, PubMed:25301938). 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 (PubMed:9452426, PubMed:<a href="http://www.uniprot.org/citations/25301938"

target="_blank">25301938) (Probable). 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:9452426, PubMed:27339894, PubMed:22266943, PubMed:25301938, PubMed:36640554). 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:27339894, PubMed:25301938). 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:9452426, PubMed:27339894, PubMed:22266943, PubMed:25301938).

Cellular Location
Endoplasmic reticulum membrane. Microsome membrane

CYP17A1 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

CYP17A1 Antibody (Center) Blocking Peptide - Images

CYP17A1 Antibody (Center) Blocking Peptide - Background

CYP17A1 is a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum. It has both 17alpha-hydroxylase and 17,20-lyase activities and is a key enzyme in the steroidogenic pathway that produces progestins, mineralocorticoids, glucocorticoids, androgens, and estrogens. Mutations in CYP17A1 gene are associated with isolated steroid-17 alpha-hydroxylase deficiency, 17-alpha-hydroxylase/17,20-lyase deficiency, pseudohermaphroditism, and adrenal hyperplasia.

CYP17A1 Antibody (Center) Blocking Peptide - References

Yuan,X., Cancer Epidemiol. Biomarkers Prev. 17 (12), 3621-3627 (2008)Nelson,D.R., Pharmacogenetics 14 (1), 1-18 (2004)Imai,T., Hum. Genet. 89 (1), 95-96 (1992)