



href="http://www.uniprot.org/citations/9452426" target="\_blank">9452426</a>). 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:<a href="http://www.uniprot.org/citations/25301938" target="\_blank">25301938</a>, PubMed:<a href="http://www.uniprot.org/citations/9452426" target="\_blank">9452426</a>). 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:<a href="http://www.uniprot.org/citations/22266943" target="\_blank">22266943</a>, PubMed:<a href="http://www.uniprot.org/citations/25301938" target="\_blank">25301938</a>, PubMed:<a href="http://www.uniprot.org/citations/27339894" target="\_blank">27339894</a>, PubMed:<a href="http://www.uniprot.org/citations/36640554" target="\_blank">36640554</a>, PubMed:<a href="http://www.uniprot.org/citations/9452426" target="\_blank">9452426</a>). 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:<a href="http://www.uniprot.org/citations/36640554" target="\_blank">36640554</a>). Also 16-alpha hydroxylates androgens, relevant for estriol synthesis (PubMed:<a href="http://www.uniprot.org/citations/25301938" target="\_blank">25301938</a>, PubMed:<a href="http://www.uniprot.org/citations/27339894" target="\_blank">27339894</a>). 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:<a href="http://www.uniprot.org/citations/22266943" target="\_blank">22266943</a>, PubMed:<a href="http://www.uniprot.org/citations/25301938" target="\_blank">25301938</a>, PubMed:<a href="http://www.uniprot.org/citations/27339894" target="\_blank">27339894</a>, PubMed:<a href="http://www.uniprot.org/citations/9452426" target="\_blank">9452426</a>).

#### Cellular Location

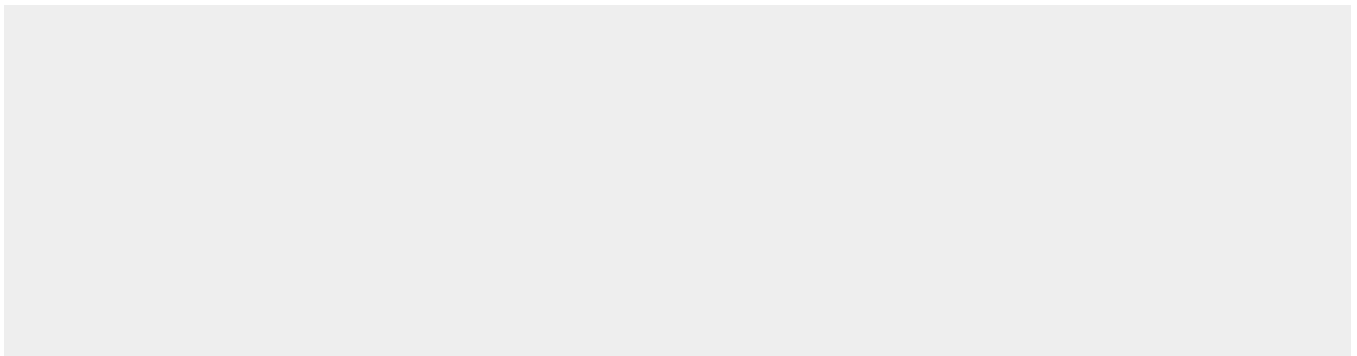
Endoplasmic reticulum membrane. Microsome membrane

#### Goat Anti-CYP17A1 Antibody - Protocols

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

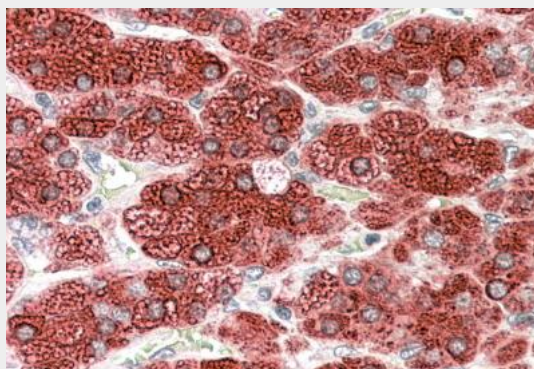
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Goat Anti-CYP17A1 Antibody - Images





AF1292a (0.3 µg/ml) staining of human ovary lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



AF1292a (3.8 µg/ml) staining of paraffin embedded Human Adrenal Gland. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

### Goat Anti-CYP17A1 Antibody - Background

This gene encodes 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 17 $\alpha$ -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 this gene are associated with isolated steroid-17  $\alpha$ -hydroxylase deficiency, 17- $\alpha$ -hydroxylase/17,20-lyase deficiency, pseudohermaphroditism, and adrenal hyperplasia.

### Goat Anti-CYP17A1 Antibody - References

The CYP17A1 -34T > C polymorphism and breast cancer risk in BRCA1 and BRCA2 mutation carriers. Kaufman B, et al. Breast Cancer Res Treat, 2010 Aug 27. PMID 20798986.  
Genetic polymorphism of catechol-O-methyltransferase and cytochrome P450c17 in preeclampsia. Lim JH, et al. Pharmacogenet Genomics, 2010 Oct. PMID 20729792.  
Betel quid chewing as an environmental risk factor for breast cancer. Kaushal M, et al. Mutat Res, 2010 Aug 20. PMID 20728566.  
An approach based on a genome-wide association study reveals candidate loci for narcolepsy. Shimada M, et al. Hum Genet, 2010 Oct. PMID 20677014.  
[Correlation between CYP17 gene polymorphisms and female postadolescent acne in Han population in Hunan Province.] Tian LM, et al. Nan Fang Yi Ke Da Xue Xue Bao, 2010 Jul. PMID 20650774.