

**CYP51A1 Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP8874C**

**Specification**

---

**CYP51A1 Antibody (Center) - Product Information**

Application	<b>WB, IHC-P, FC,E</b>
Primary Accession	<a href="#">O16850</a>
Other Accession	<a href="#">O4R8S6</a>
Reactivity	<b>Human</b>
Predicted	<b>Monkey</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Isotype	<b>Rabbit IgG</b>
Calculated MW	<b>57278</b>
Antigen Region	<b>250-279</b>

**CYP51A1 Antibody (Center) - Additional Information**

**Gene ID** 1595

**Other Names**

Lanosterol 14-alpha demethylase, LDM, CYPLI, Cytochrome P450 51A1, Cytochrome P450-14DM, Cytochrome P45014DM, Cytochrome P450LI, Sterol 14-alpha demethylase, CYP51A1, CYP51

**Target/Specificity**

This CYP51A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 250-279 amino acids from the Central region of human CYP51A1.

**Dilution**

WB~~1:1000  
IHC-P~~1:10~50  
FC~~1:10~50

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

CYP51A1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**CYP51A1 Antibody (Center) - Protein Information**

**Name** CYP51A1 ([HGNC:2649](#))

**Synonyms** CYP51

**Function** Sterol 14alpha-demethylase that plays a critical role in the cholesterol biosynthesis pathway, being cholesterol the major sterol component in mammalian membranes as well as a precursor for bile acid and steroid hormone synthesis (PubMed:[20149798](#), PubMed:[8619637](#), PubMed:[9559662](#)). Cytochrome P450 monooxygenase that catalyzes the three-step oxidative removal of the 14alpha-methyl group (C-32) of sterols such as lanosterol (lanosta-8,24-dien-3beta-ol) and 24,25- dihydrolanosterol (DHL) in the form of formate, and converts the sterols to 4,4-dimethyl-5alpha-cholesta-8,14,24-trien-3beta-ol and 4,4-dimethyl-8,14-cholestadien-3beta-ol, respectively, which are intermediates of cholesterol biosynthesis (PubMed:[20149798](#), PubMed:[8619637](#), PubMed:[9559662](#)). Can also demethylate substrates not intrinsic to mammals, such as eburicol (24-methylene-24,25- dihydrolanosterol), but at a lower rate than DHL (PubMed:[9559662](#)).

**Cellular Location**

Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q64654}; Single-pass membrane protein. Microsome membrane {ECO:0000250|UniProtKB:Q64654}; Single-pass membrane protein

**Tissue Location**

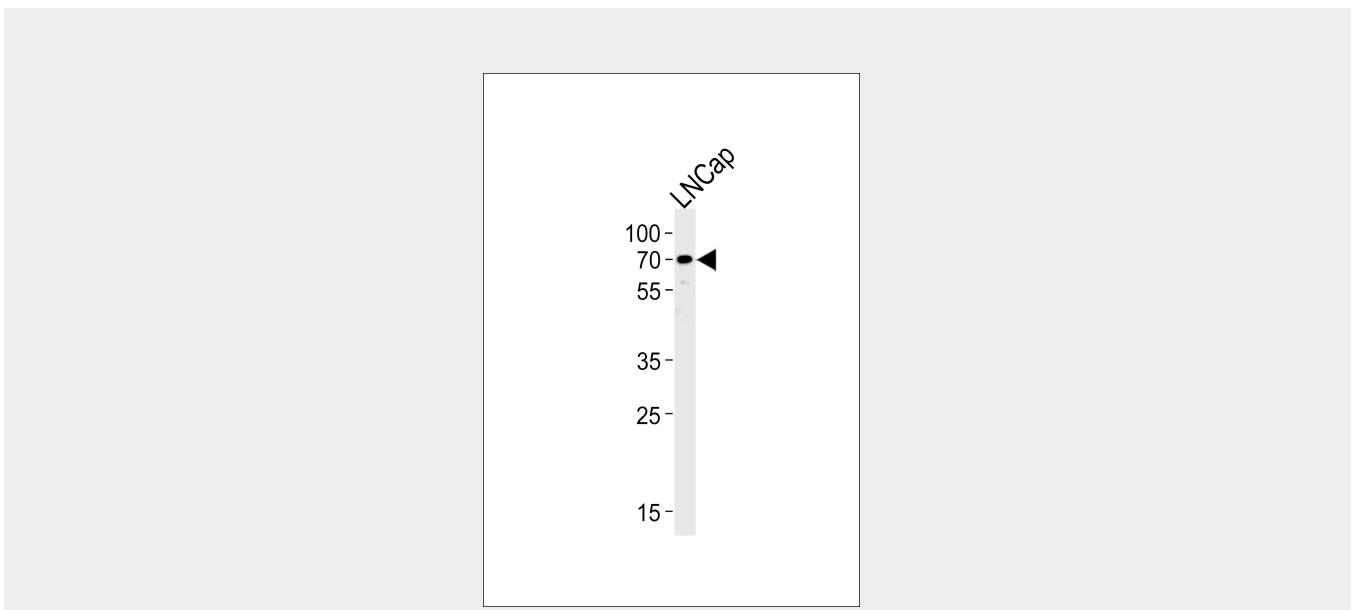
Ubiquitously expressed with highest levels in testis, ovary, adrenal, prostate, liver, kidney and lung

**CYP51A1 Antibody (Center) - Protocols**

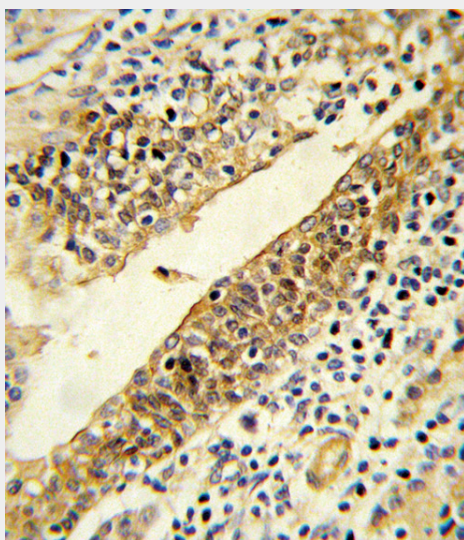
Provided below are standard protocols that you may find useful for product applications.

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

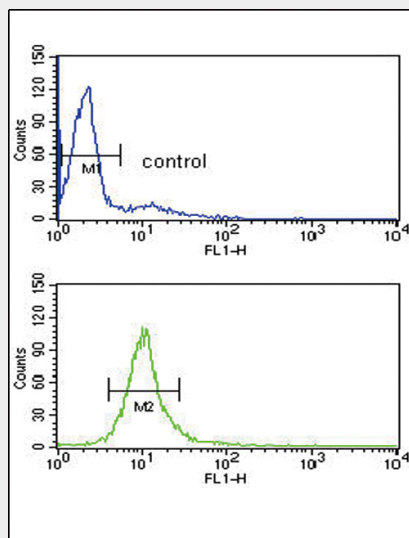
**CYP51A1 Antibody (Center) - Images**



Western blot analysis of lysate from LNCap cell line, using CYP51A1 Antibody (Center)(Cat. #AP8874c). AP8874c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.



Formalin-fixed and paraffin-embedded human prostate carcinoma reacted with CYP51A1 Antibody (Center) (Cat. #AP8874c), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



CYP51A1 Antibody (Center) (Cat. #AP8874c) flow cytometry analysis of HL-60 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

**CYP51A1 Antibody (Center) - Background**

CYP51A1 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 endoplasmic reticulum protein participates in the synthesis of cholesterol by catalyzing the removal of the 14alpha-methyl group from lanosterol.

**CYP51A1 Antibody (Center) - References**

Matsuura, K., et al., J. Biol. Chem. 280 (10), 9088-9096 (2005)  
Wang, Y., et al., J. Biol. Chem. 283 (39), 26332-26339 (2008)