

## Rabbit CYP51A1/CYP51 Polyclonal Antibody | anti-CYP51A1 antibody

Anti-CYP51A1/CYP51 Antibody

| CATALOG # | HOST   | REACTIVITY           | APPLICATIONS                                                                                   |
|-----------|--------|----------------------|------------------------------------------------------------------------------------------------|
| AAA125712 | Rabbit | Human, Mouse, Monkey | ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Western Blot |

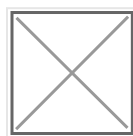
### PRODUCT SYNONYMS

CYP51A1/CYP51; Polyclonal Antibody; Anti-CYP51A1/CYP51 Antibody; CYP51A1; CYP51; Lanosterol 14-alpha demethylase; LDM; EC 1. 14. 14. 154; CYP51; Cytochrome P450 51A1; Cytochrome P450-14DM; Cytochrome P45014DM; Cytochrome P450LI; Sterol 14-alpha demethylase; cytochrome P450 family 51 subfamily A member 1; anti-CYP51A1 antibody

### PRODUCT SPECIFICATIONS

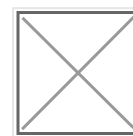
|                                                   |                                                                                                                                                                                                            |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                              | Rabbit                                                                                                                                                                                                     |
| Reactivity                                        | Human, Mouse, Monkey                                                                                                                                                                                       |
| Clonality                                         | Polyclonal                                                                                                                                                                                                 |
| Isotype                                           | Rabbit IgG                                                                                                                                                                                                 |
| Specificity                                       | Rabbit IgG polyclonal antibody for CYP51A1/CYP51 detection.                                                                                                                                                |
| Purity/Purification                               | Immunogen affinity purified.                                                                                                                                                                               |
| Form/Format                                       | Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.                                                                                                                               |
| Applicable Applications for anti-CYP51A1 antibody | ELISA (Direct ELISA), FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), WB (Western Blot)                                                                                     |
| Immunogen                                         | E Coli-derived human CYP51A1/CYP51 recombinant protein (Position: K141-K503).                                                                                                                              |
| Reconstitution                                    | Add 0.2ml of distilled water will yield a concentration of 500ug/ml.                                                                                                                                       |
| Recommended Detection Systems                     | Recommended Detection Systems                                                                                                                                                                              |
| Preparation and Storage                           | Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing. |

### IMAGES



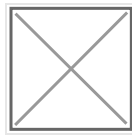
#### FCM/FACS (Flow Cytometry)

Figure 3. Flow Cytometry analysis of HepG2 cells using anti-CYP51A1/CYP51 antibody (AAA125712). Overlay histogram showing HepG2 cells stained with AAA125712 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CYP51A1/CYP51 Antibody (AAA125712, 1&mu;g/1x10<sup>6</sup> cells) for 30 min at 20 degree C. DyLight&reg;488 conjugated goat anti-rabbit IgG (5-10&mu;g/1x10<sup>6</sup> cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1&mu;g/1x10<sup>6</sup>) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



#### IF (Immunofluorescence)

Figure 2. IF analysis of CYP51A1/CYP51 using anti-CYP51A1/CYP51 antibody (AAA125712). CYP51A1/CYP51 was detected in immunocytochemical section of CACO-2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5&mu;g/mL rabbit anti-CYP51A1/CYP51 Antibody (AAA125712) overnight at 4 degree C. DyLight&reg;488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



#### WB (Western Blot)

Figure 1. Western blot analysis of CYP51A1/CYP51 using anti-CYP51A1/CYP51 antibody (AAA125712). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions. Lane 1: monkey COS-7 whole cell lysates Lane 2: human A431 whole cell lysates Lane 3: human K562 whole cell lysates Lane 4: mouse liver tissue lysates Lane 5: mouse kidney tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1. 5 hour at RT. The membrane was incubated with rabbit anti-CYP51A1/CYP51 antigen affinity purified polyclonal antibody (Catalog # AAA125712) at 0. 5 &mu;g/mL overnight at 4 degree C, then washed with TBS-0. 1% Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1. 5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for CYP51A1/CYP51 at approximately 57KD. The expected band size for CYP51A1/CYP51 is at 57KD.

#### ADDITIONAL INFORMATION

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Related Product Information for anti-CYP51A1 antibody</b> | P450 enzymes constitute a family of monooxygenase enzymes that are involved in the metabolism of a wide array of endogenous and xenobiotic compounds. Several P450 enzymes have been classified by sequence similarities as members of the CYP1A and CYP2A subfamilies. CYP51A1 (cytochrome P450, family 51, subfamily A, polypeptide 1), also known as LDM (lanosterol 14-alpha demethylase) or cytochrome P450-14DM, is a 503 amino acid protein localized to endoplasmic reticulum membrane. CYP51A1 is an important enzyme for zymosterol and steroid biosynthesis. CYP51A1 catalyzes C14-demethylation of lanosterol, transforming lanosterol into 4,4'-dimethyl cholesta-8,14,24-triene-3-beta-ol. CYP51A1 is ubiquitously expressed, with highest levels found in liver, ovary, testis, lung, kidney and prostate.                                                                                               |
| <b>References</b>                                            | <ol style="list-style-type: none"><li>1. Aldahmesh, M. A., Khan, A. O., Mohamed, J. Y., Hijazi, H., Al-Owain, M., Alswaid, A., Alkuraya, F. S. Genomic analysis of pediatric cataract in Saudi Arabia reveals novel candidate disease genes. Genet. Med. 14: 955-962, 2012.</li><li>2. Gillespie, R. L., O'Sullivan, J., Ashworth, J., Bhaskar, S., Williams, S., Biswas, S., Kehdi, E., Ramsden, S. C., Clayton-Smith, J., Black, G. C., Lloyd, I. C. Personalized diagnosis and management of congenital cataract by next-generation sequencing. Ophthalmology 121: 2124-2137, 2014.</li><li>3. Hubler, Z., Allimuthu, D., Bederman, I., Elitt, M. S., Madhavan, M., Allan, K. C., Shick, H. E., Garrison, E., Karl, M. T., Factor, D. C., Nevin, Z. S., Sax, J. L. {and 12 others}: Accumulation of 8,9-unsaturated sterols drives oligodendrocyte formation and remyelination. Nature 560: 372-376, 2018.</li></ol> |

#### NCBI AND UNIPROT INFORMATION

|                                         |                                                                                                                                                                                                                                |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NCBI GI #</b>                        | <a href="#">4503243</a>                                                                                                                                                                                                        |
| <b>NCBI GeneID</b>                      | <a href="#">1595</a>                                                                                                                                                                                                           |
| <b>NCBI Accession #</b>                 | <a href="#">NP_000777.1</a>                                                                                                                                                                                                    |
| <b>NCBI GenBank Nucleotide #</b>        | <a href="#">NM_000786.3</a>                                                                                                                                                                                                    |
| <b>UniProt Accession #</b>              | <a href="#">Q16850</a> ; <a href="#">O00770</a> ; <a href="#">O00772</a> ; <a href="#">Q16784</a> ; <a href="#">Q8N1A8</a> ; <a href="#">Q99868</a> ; <a href="#">A4D1F8</a> ; <a href="#">B2RAI4</a> ; <a href="#">B4DJ55</a> |
| <b>Molecular Weight</b>                 | 56,806 Da                                                                                                                                                                                                                      |
| <b>NCBI Official Full Name</b>          | lanosterol 14-alpha demethylase isoform 1                                                                                                                                                                                      |
| <b>NCBI Official Synonym Full Names</b> | cytochrome P450, family 51, subfamily A, polypeptide 1                                                                                                                                                                         |
| <b>NCBI Official Symbol</b>             | CYP51A1                                                                                                                                                                                                                        |
| <b>NCBI Official Synonym Symbols</b>    | LDM; CP51; CYP51; CYPL1; P450L1; P450-14DM                                                                                                                                                                                     |
| <b>NCBI Protein Information</b>         | lanosterol 14-alpha demethylase; CYPL1; cytochrome P450LI; cytochrome P45014DM; cytochrome P450 51A1; cytochrome P450-14DM; lanosterol 14-alpha-demethylase; cytochrome P450, 51 (lanosterol 14-alpha-demethylase)             |

|                            |                                 |
|----------------------------|---------------------------------|
| UniProt Protein Name       | Lanosterol 14-alpha demethylase |
| UniProt Gene Name          | CYP51A1                         |
| UniProt Synonym Gene Names | CYP51; LDM                      |
| UniProt Entry Name         | CP51A_HUMAN                     |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/cyp51a1-cyp51-antibody-direct-elisa-flow-cytometry-immunofluorescence-immunocytochemistry-western-blot-elisa/125712>