

Anti-CYP51A1/CYP51 Antibody Picoband®

Catalog Number: A04032-1

About CYP51A1

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- α 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- β -ol. CYP51A1 is ubiquitously expressed, with highest levels found in liver, ovary, testis, lung, kidney and prostate.

Overview

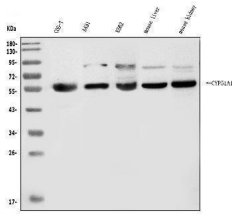
Product Name	Anti-CYP51A1/CYP51 Antibody Picoband®
Reactive Species	Human, Monkey, Mouse
Description	Boster Bio Anti-CYP51A1/CYP51 Antibody Picoband® catalog # A04032-1. Tested in ELISA, Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human, Monkey, Mouse. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, IF, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q16850

Technical Details

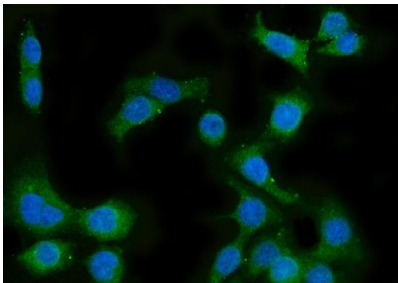
Immunogen	E.coli-derived human CYP51A1/CYP51 recombinant protein (Position: K141-K503).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, Mouse, Monkey Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10 ⁶ cells, Human ELISA, 0.1-0.5ug/ml, -

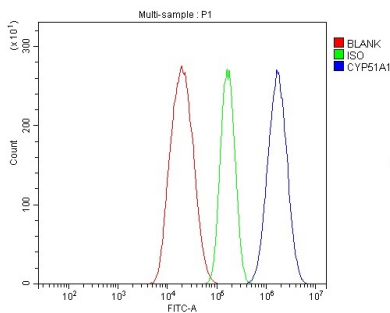
Anti-CYP51A1/CYP51 Antibody Picoband® (A04032-1) Images



Western blot analysis of CYP51A1/CYP51 using anti-CYP51A1/CYP51 antibody (A04032-1). 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 # A04032-1) at 0.5 ug/mL overnight at 4°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 (Catalog # EK1002) 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.



IF analysis of CYP51A1/CYP51 using anti-CYP51A1/CYP51 antibody (A04032-1). CYP51A1/CYP51 was detected in immunocytochemical section of CACO-2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-CYP51A1/CYP51 Antibody (A04032-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of HepG2 cells using anti-CYP51A1/CYP51 antibody (A04032-1). Overlay histogram showing HepG2 cells stained with A04032-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CYP51A1/CYP51 Antibody (A04032-1, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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Anti-CYP51A1/CYP51 Antibody

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