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Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5)

Catalog # ABO14972

Specification

Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) - Product Information

Application	**WB, IHC, FC**
Primary Accession	P33261
Host	**Mouse**
Isotype	**Mouse IgG1**
Reactivity	**Rat, Human, Mouse, Monkey**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) . Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) - Additional Information

Gene ID 1557

Other Names
Cytochrome P450 2C19, 1.14.14.1, (R)-limonene 6-monooxygenase, 1.14.14.53, (S)-limonene 6-monooxygenase, 1.14.14.51, (S)-limonene 7-monooxygenase, 1.14.14.52, CYPIIC17, CYPIIC19, Cytochrome P450-11A, Cytochrome P450-254C, Fenbendazole monooxygenase (4'-hydroxylating), 1.14.14.75, Mephenytoin 4-hydroxylase, CYP2C19

Calculated MW
55 kDa KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Mouse, Rat, Monkey
 Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, Human
Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence in the middle region of human Cytochrome p450 2C19/CYP2C19.

Purification
Immunogen affinity purified.

Storage	**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.

Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) - Protein Information

Name CYP2C19

Function
A cytochrome P450 monooxygenase involved in the metabolism of polyunsaturated fatty acids (PUFA) (PubMed:18577768, PubMed:19965576, PubMed:20972997). 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 (NADPH--hemoprotein reductase) (PubMed:18577768, PubMed:19965576, PubMed:20972997). Catalyzes the hydroxylation of carbon-hydrogen bonds. Hydroxylates PUFA specifically at the omega-1 position (PubMed:18577768). Catalyzes the epoxidation of double bonds of PUFA (PubMed:19965576, PubMed:20972997). Also metabolizes plant monoterpenes such as limonene. Oxygenates (R)- and (S)-limonene to produce carveol and perillyl alcohol (PubMed:11950794). Responsible for the metabolism of a number of therapeutic agents such as the anticonvulsant drug S-mephenytoin, omeprazole, proguanil, certain barbiturates, diazepam, propranolol, citalopram and imipramine. Hydroxylates fenbendazole at the 4' position (PubMed:23959307).

Cellular Location
Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein

Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) - Images

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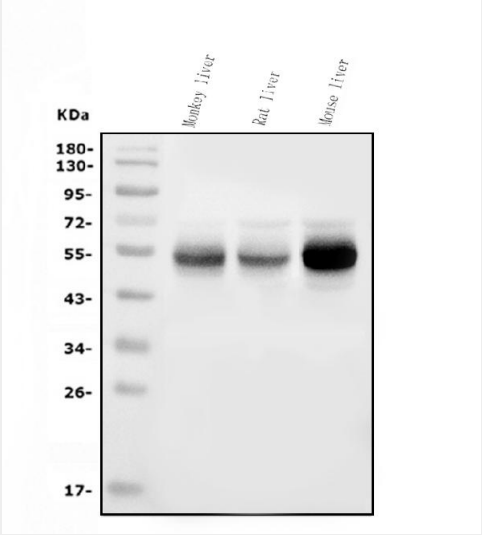

Figure 1. Western blot analysis of Cytochrome p450 2C19/CYP2C19 using anti-Cytochrome p450 2C19/CYP2C19 antibody (M02102).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: monkey liver tissue lysates,
Lane 2: rat liver tissue lysates,
Lane 3: mouse liver 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 mouse anti-Cytochrome p450 2C19/CYP2C19 antigen affinity purified monoclonal antibody (Catalog # M02102) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Cytochrome p450 2C19/CYP2C19 at approximately 55KD. The expected band size for Cytochrome p450 2C19/CYP2C19 is at 55KD.

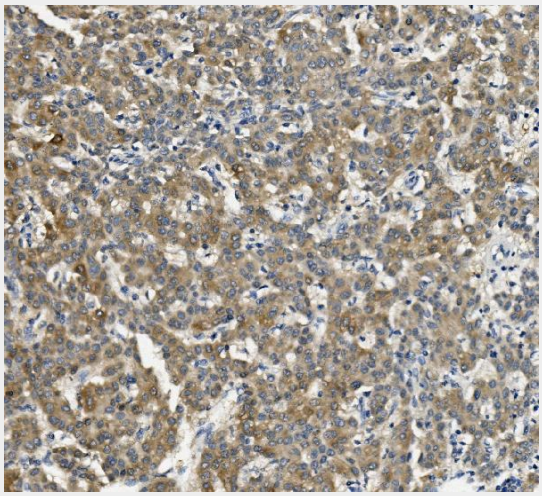

Figure 2. IHC analysis of Cytochrome p450 2C19/CYP2C19 using anti-Cytochrome p450 2C19/CYP2C19 antibody (M02102).
Cytochrome p450 2C19/CYP2C19 was detected in paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was

then incubated with 1 µg/ml mouse anti-Cytochrome p450 2C19/CYP2C19 Antibody (M02102) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

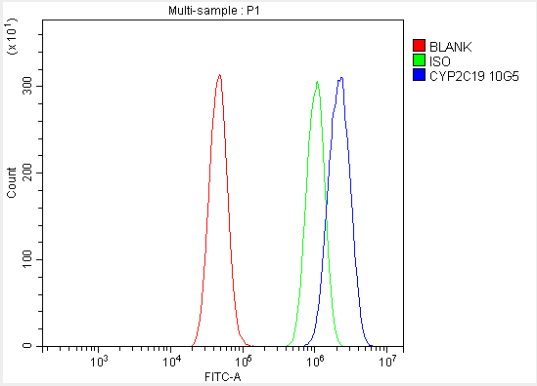

Figure 3. Flow Cytometry analysis of A431 cells using anti-Cytochrome p450 2C19/CYP2C19 antibody (M02102).
Overlay histogram showing A431 cells stained with M02102 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Cytochrome p450 2C19/CYP2C19 Antibody (M02102, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

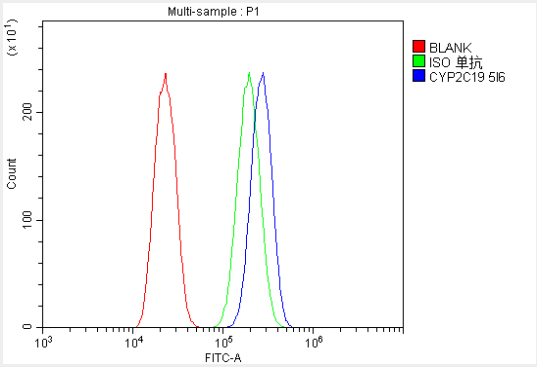

Figure 4. Flow Cytometry analysis of U20S cells using anti-Cytochrome p450 2C19/CYP2C19 antibody (M02102). Overlay histogram showing U20S cells stained with M02102 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Cytochrome p450 2C19/CYP2C19 Antibody (M02102, 1 µg/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-Cytochrome p450 2C19/CYP2C19 Antibody Picoband™ (monoclonal, 10G5) - Background

Cytochrome P450 2C19 (abbreviatedCYP2C19) 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 and is known to metabolize many xenobiotics, including the anticonvulsive drug mephenytoin, omeprazole, diazepam and some barbiturates. Polymorphism within this gene is associated with variable ability to metabolize mephenytoin, known as the poor metabolizer and extensive metabolizer phenotypes. The gene is located within a cluster

of cytochrome P450 genes on chromosome 10q24.