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Anti-Cytochrome P450 2D6 Picoband Antibody

Catalog # ABO10084

Product Information

Application	WB, IHC-P
Primary Accession	P10635
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cytochrome P450 2D6(CYP2D6) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	1565
Other Names	Cytochrome P450 2D6, 1.14.14.1, CYPIID6, Cholesterol 25-hydroxylase, Cytochrome P450-DB1, Debrisoquine 4-hydroxylase, CYP2D6, CYP2DL1
Calculated MW	55769
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein.
Source	Eukaryota
Protein Name	Cytochrome P450 2D6
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Cytochrome P450 2D6 (315-347aa AWGLLLMILHPDVQRRVQQEIDDVIGQVRRPEM).
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also

be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	CYP2D6 {ECO:0000303|PubMed:21289075, ECO:0000312|HGNC:HGNC:2625}
Function	A cytochrome P450 monooxygenase involved in the metabolism of fatty acids, steroids and retinoids (PubMed:18698000, PubMed:19965576, PubMed:20972997, PubMed:21289075, PubMed:21576599). 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:18698000, PubMed:19965576, PubMed:20972997, PubMed:21289075, PubMed:21576599). Catalyzes the epoxidation of double bonds of polyunsaturated fatty acids (PUFA) (PubMed:19965576, PubMed:20972997). Metabolizes endocannabinoid arachidonoylethanolamide (anandamide) to 20-hydroxyeicosatetraenoic acid ethanolamide (20-HETE-EA) and 8,9-, 11,12-, and 14,15-epoxyeicosatrienoic acid ethanolamides (EpETrE-EAs), potentially modulating endocannabinoid system signaling (PubMed:18698000, PubMed:21289075). Catalyzes the hydroxylation of carbon-hydrogen bonds. Metabolizes cholesterol toward 25-hydroxycholesterol, a physiological regulator of cellular cholesterol homeostasis (PubMed:21576599). Catalyzes the oxidative transformations of all-trans retinol to all-trans retinal, a precursor for the active form all-trans-retinoic acid (PubMed:10681376). Also involved in the oxidative metabolism of drugs such as antiarrhythmics, adrenoceptor antagonists, and tricyclic antidepressants.
Cellular Location	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein

Background

Cytochrome P450 2D6 (CYP2D6) is one of the most important enzymes involved in the metabolism of xenobiotics in the body. It is a member of Cytochrome P450, family 2, subfamily D, polypeptide 6. This gene is mapped to chromosome 22q13.1. It has got 497 amino acid proteins which shares 73% sequence identity with the rat protein. CYP2D6 is highly expressed in human liver and it is the major isozyme involved in the formation of N-hydroxyprocainamide, a metabolite potentially involved in the drug-induced lupus syndrome observed with procainamide.

Images

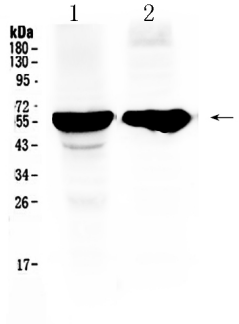


Figure 1. Western blot analysis of Cytochrome P450 2D6 using anti- Cytochrome P450 2D6 antibody (ABO10084). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat liver tissue lysates, Lane 2: 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 rabbit anti- Cytochrome P450 2D6 antigen affinity purified

polyclonal antibody (Catalog # ABO10084) 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-rabbit 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 with Tanon 5200 system. A specific band was detected for Cytochrome P450 2D6 at approximately 56KD. The expected band size for Cytochrome P450 2D6 is at 56KD.

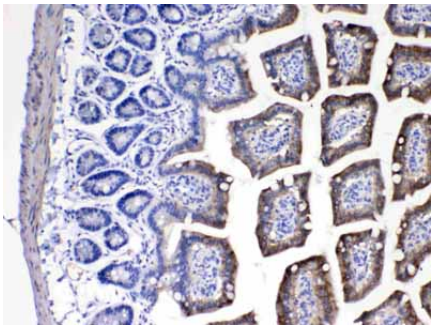


Figure 2. IHC analysis of Cytochrome P450 2D6 using anti-Cytochrome P450 2D6 antibody (ABO10084).Cytochrome P450 2D6 was detected in paraffin-embedded section of mouse intestine tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μg/ml rabbit anti- Cytochrome P450 2D6 Antibody (ABO10084) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

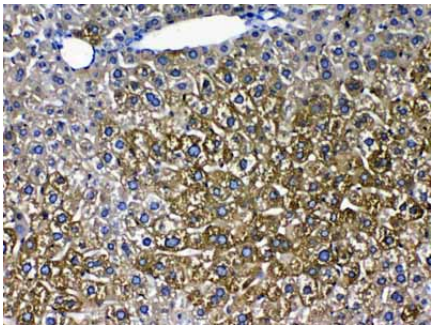


Figure 3. IHC analysis of Cytochrome P450 2D6 using anti-Cytochrome P450 2D6 antibody (ABO10084).Cytochrome P450 2D6 was detected in paraffin-embedded section of mouse liver tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μg/ml rabbit anti- Cytochrome P450 2D6 Antibody (ABO10084) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

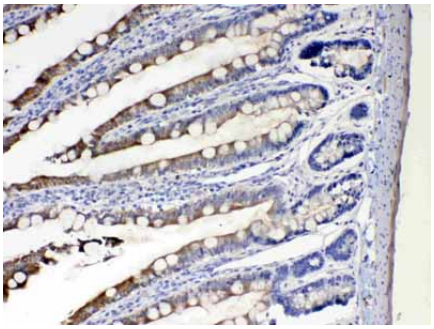
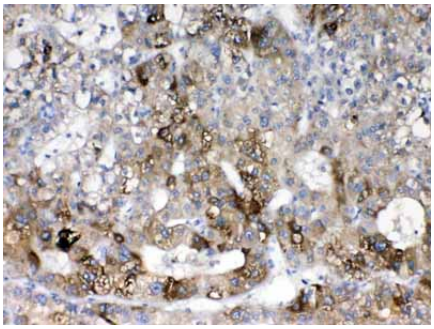


Figure 4. IHC analysis of Cytochrome P450 2D6 using anti-Cytochrome P450 2D6 antibody (ABO10084).Cytochrome P450 2D6 was detected in paraffin-embedded section of rat intestine tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μg/ml rabbit anti- Cytochrome P450 2D6 Antibody (ABO10084) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Figure 5. IHC analysis of Cytochrome P450 2D6 using anti-Cytochrome P450 2D6 antibody (ABO10084).Cytochrome P450 2D6 was detected in paraffin-embedded section of human liver cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was



then incubated with 1 □¼g/ml rabbit anti- Cytochrome P450 2D6 Antibody (ABO10084) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.