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Anti-CYP1B1 Picoband Antibody

Catalog # ABO12233

Product Information

Application	WB, IHC-P
Primary Accession	Q16678
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cytochrome P450 1B1(CYP1B1) 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	1545
Other Names	Cytochrome P450 1B1, 1.14.14.1, CYPIB1, CYP1B1
Calculated MW	60846
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat
Subcellular Localization	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein. Mitochondrion .
Tissue Specificity	Expressed in many tissues. .
Source	Eukaryota
Protein Name	Cytochrome P450 1B1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human CYP1B1 recombinant protein (Position: R255-L480). Human CYP1B1 shares 85.4% and 84.5% amino acid (aa) sequence identity with mouse and rat CYP1B1, respectively.
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.
Sequence Similarities	Belongs to the cytochrome P450 family.

Protein Information

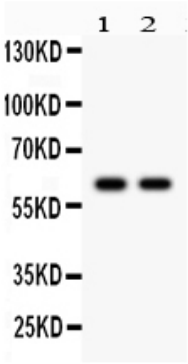
Name	CYP1B1 {ECO:0000303|PubMed:8910454, ECO:0000312|HGNC:HGNC:2597}
Function	A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (PubMed:10681376, PubMed:11555828, PubMed:12865317, PubMed:15258110, PubMed:20972997). 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:10681376, PubMed:11555828, PubMed:12865317, PubMed:15258110, PubMed:20972997). Exhibits catalytic activity for the formation of hydroxyestrogens from estrone (E1) and 17beta-estradiol (E2), namely 2- and 4-hydroxy E1 and E2. Displays a predominant hydroxylase activity toward E2 at the C-4 position (PubMed:11555828, PubMed:12865317). Metabolizes testosterone and progesterone to B or D ring hydroxylated metabolites (PubMed:10426814). May act as a major enzyme for all-trans retinoic acid biosynthesis in extrahepatic tissues. Catalyzes two successive oxidative transformation of all-trans retinol to all-trans retinal and then to the active form all-trans retinoic acid (PubMed:10681376, PubMed:15258110). Catalyzes the epoxidation of double bonds of certain PUFA. Converts arachidonic acid toward epoxyeicosatrienoic acid (EpETrE) regioisomers, 8,9-, 11,12-, and 14,15- EpETrE, that function as lipid mediators in the vascular system (PubMed:20972997). Additionally, displays dehydratase activity toward oxygenated eicosanoids hydroperoxyeicosatetraenoates (HpETEs). This activity is independent of cytochrome P450 reductase, NADPH, and O2 (PubMed:21068195). Also involved in the oxidative metabolism of xenobiotics, particularly converting polycyclic aromatic hydrocarbons and heterocyclic aryl amines procarcinogens to DNA-damaging products (PubMed:10426814). Plays an important role in retinal vascular development. Under hyperoxic O2 conditions, promotes retinal angiogenesis and capillary morphogenesis, likely by metabolizing the oxygenated products generated during the oxidative stress. Also, contributes to oxidative homeostasis and ultrastructural organization and function of trabecular meshwork tissue through modulation of POSTN expression (By similarity).
Cellular Location	Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q64429}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q64429}. Microsome membrane {ECO:0000250|UniProtKB:Q64429}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q64429}. Mitochondrion {ECO:0000250|UniProtKB:Q64429}. Note=Located primarily in endoplasmic reticulum. Upon treatment with 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), CYP1B1 is also targeted to mitochondria {ECO:0000250|UniProtKB:Q64429}
Tissue Location	Expressed in heart, brain, lung, skeletal muscle, kidney, spleen, thymus, prostate, testis, ovary, small intestine, colon, and peripheral blood leukocytes (PubMed:8175734). Expressed in retinal endothelial cells and umbilical vein endothelial cells (at protein level) (PubMed:19005183).

Background

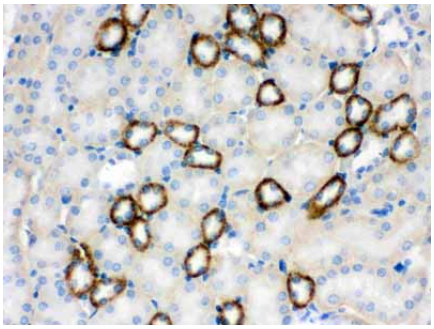
Cytochrome P450 1B1 is an enzyme that in humans is encoded by the CYP1B1 gene. CYP1B1 belongs to the

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. The enzyme encoded by this gene localizes to the endoplasmic reticulum and metabolizes procarcinogens such as polycyclic aromatic hydrocarbons and 17beta-estradiol. Mutations in this gene have been associated with primary congenital glaucoma; therefore it is thought that the enzyme also metabolizes a signaling molecule involved in eye development, possibly a steroid.

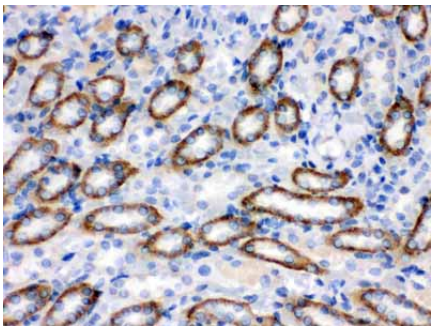
Images



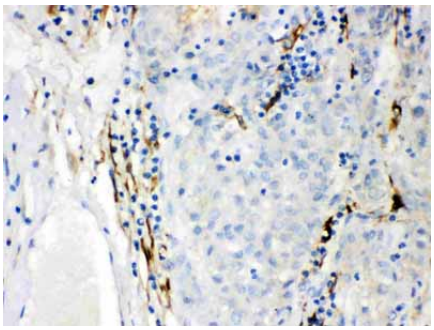
Anti- CYP1B1 Picoband antibody, ABO12233, Western blottingAll lanes: Anti CYP1B1 (ABO12233) at 0.5ug/mlLane 1: Rat Kidney Tissue Lysate at 50ugLane 2: MCF-7 Whole Cell Lysate at 40ugPredicted bind size: 61KDObserved bind size: 61KD



Anti- CYP1B1 Picoband antibody, ABO12233,IHC(P)IHC(P): Mouse Kidney Tissue



Anti- CYP1B1 Picoband antibody, ABO12233,IHC(P)IHC(P): Rat Kidney Tissue



Anti- CYP1B1 Picoband antibody, ABO12233,IHC(P)IHC(P): Human Liver Cancer Tissue

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