

# Cytochrome P450 1B1 Rabbit mAb

Catalog # AP77984

## Product Information

|                   |                                                 |
|-------------------|-------------------------------------------------|
| Application       | WB, IHC-P, FC                                   |
| Primary Accession | <a href="#">Q16678</a>                          |
| Reactivity        | Rat, Human, Mouse                               |
| Host              | Rabbit                                          |
| Clonality         | Monoclonal Antibody                             |
| Isotype           | IgG                                             |
| Conjugate         | Unconjugated                                    |
| Immunogen         | A synthesized peptide derived from human CYP1B1 |
| Purification      | Affinity Chromatography                         |
| Calculated MW     | 60846                                           |

## Additional Information

|             |                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------|
| Gene ID     | 1545                                                                                               |
| Other Names | CYP1B1                                                                                             |
| Dilution    | WB~~1/500-1/1000 IHC-P~~N/A FC~~1:10~50                                                            |
| Format      | Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol. |
| Storage     | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.           |

## Protein Information

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|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name     | CYP1B1 {ECO:0000303   PubMed:8910454, ECO:0000312   HGNC:HGNC:2597}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Function | <p>A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (PubMed:<a href="#">10681376</a>, PubMed:<a href="#">11555828</a>, PubMed:<a href="#">12865317</a>, PubMed:<a href="#">15258110</a>, PubMed:<a href="#">20972997</a>). 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:<a href="#">10681376</a>, PubMed:<a href="#">11555828</a>, PubMed:<a href="#">12865317</a>, PubMed:<a href="#">15258110</a>, PubMed:<a href="#">20972997</a>). 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:<a href="#">11555828</a>, PubMed:<a href="#">12865317</a>). Metabolizes testosterone and progesterone to B or D ring hydroxylated metabolites (PubMed:<a href="#">10426814</a>). May act as a major enzyme for all-trans retinoic acid</p> |

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 O<sub>2</sub> (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 O<sub>2</sub> 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).

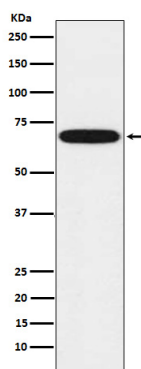
#### Cellular Location

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).

## Images



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