

## Product datasheet for **MC206658**

### **Cyp1b1 (BC050063) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Cyp1b1 (BC050063) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Cyp1b1
Synonyms:	P4501b1, CP1B
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:**

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>BC050063
CAGACACCTCTGCGACGCCAGCTTGAAAACCTGCCAGCGGGCTGGGATTTAACTCCACTTTATCAACTCCC
ACCCCCGACCCTTCTCAACTGCAACCCCAACTCCGTGAGAAAGCCCTGACTTTGCGGGGTCCCAGGTGCA
AACTTGAGACACTTTTGTCCCTGTCCATCCTAATCTAAGTTTAGGCTCTGATTGAGTCAAGAGTAGG
TGCTAAAGCAGCGGGCCTCAGGTGTCTAGGTCTCGGGTCCCTGGGGACTCTCAGTTGAAGCCTTGCCA
GAATCTGGGCAGAGGCTCCAGAGCTTCTCCAGATCCCCTGCTCTACACCGTGGAAACCACGCTTCAT
CGCAGCATGGCCACCAGCCTTAGTGCAGACAGTCCACAGCAGCTGAGCTCGTCTACCCAGCAGACCA
CTTTCTGCTACTTCTCCGTCTGGCCGCGTGCACCTTAGGCCAGTGGCTGCTGCGACAGTGGCAACG
GAAACCGTGGTCTCGCCCCAGGTCCTTTCTTGCCACTGATCGAAACGCGCGGGCTGTTGGCCAG
GCGTCGCACTTGTACTTCGCTCGCTTGAAGGCGCTATGGCGACGTTTTCCAGATCCGTCTGGGCAGT
GTCCCGTGGTGGTCTGAATGGAGAGAGTGCCATCCACCAGGCCCTGGTGCAGCAGGGCAGCATCTTCGC
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GAGCACTGGAAGACGCAGCGACGCTCGGCTATAGCACGATGCGTCTTCTCCACGCGCCACCCGCGCA
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CACCGGAAAGCCTGGTCCCAGGGCTGCTCCTCGAGACATGACGGACGCTTTCATCCTCTCTGCCGAAA
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CAGCCCGTTCCTGGACAAGGACGGCATCATAACAAGGCGCTAGCCAGCAGTGTGATGATATTCTCAGT
GGGCAACCGAGGTGCATCGGTGAGGAACTGTCTAAGATGCTTCTGTTTCTTTCATCTCCATCCTCGCT
CATCAGTGCAATTTCAAGGCTAACCAAAATGAGTCTCAAACATGAGTTTCAGTTATGGCCTGACCATTA
AGCCCAAGTCGTTTAGAATCCATGTGTCTCTCAGAGAGTCGATGGAACCTCTGGATAATGCTGTTAAAA
GCTGCAAACTGAGGAAGGCTGCAAGTGAAGGCCGGAGGGAGCTGGAATGTTAAGGAATACCTATCTCA
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GAAGTATTTTTGGAATTGAAGAGCAAAAGGGCCCAAGGAATTTGGAGCCTGTTGTTTTTTGGGTTTTTCAG
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AAGAGACAGCTTGCTTGGAAAAATGCTTCAACTCCTTTATAGCCCTGGATGAGGCTTTCTGCCTGCCTGT
TGATGGGCTCCACTTTAGAATGGACCATAAAGTCAGTTGTCCCTAAGAATTTATGGCTGATTTAACA
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AACCCAGTGTTCCTCAATAGTATTCAATGCATATAAAAAATTTACCTAACTGCCATAAACATCATATGAA
TATTAATATTCAATCAGGAAAACACTTGAATAATATATTTCTTATGTCATATTGCAACCAAAAAAGTAT
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GAACTGAGTAACAGAACAGTCTTTTCTATTTATAGTTTACAAAGGGACAAATCTAAAACCTAAACCAG
CGAAATATGTTCTGATCTGGTAATTGTAGTTACAACATGGATGGTCTTTTGGAAATGACCCCATTAATA
TGTTAAGCTTACAAATCTTGGTTTGTCTCGATTTTTAAATAGTTTAAAATCCATCTTGATTATTTCTG
TCCAGTCGAAGCTAGAGAAAATGTGATCATTATCTCGCAGAAGGTGAGAAACCTAACCTTTGCCTAAGAA
CAAATGCCAAATGTAATAAATAAATAAGTAAATAAAGGCCATGAATGTTCTGGGTGTTCTATTAG
AGACCATATGATAGGAGGCTCACTACAACCAGTAATTGGTAGTTTCTTTTTCCGAGTTCTTACTATTGCT
GTTGTAGTTGTTTTTAAAGTTGAGTATTAAGTCTGTGTCTTTTTGTTTTTAAAAAATAAAAAAAA AAA
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<b>Restriction Sites:</b>	EcoRI-NotI
<b>ACCN:</b>	BC050063
<b>Insert Size:</b>	1632 bp
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
<b>RefSeq:</b>	<a href="#">BC050063</a> , <a href="#">AAH50063</a>
<b>RefSeq Size:</b>	3503 bp
<b>RefSeq ORF:</b>	1632 bp
<b>Locus ID:</b>	13078
<b>Cytogenetics:</b>	17 E3

**Gene Summary:**

A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, steroid hormones and vitamins (By similarity). 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) (By similarity). Exhibits catalytic activity for the formation of hydroxyestrogens from 17beta-estradiol (E2), namely 2- and 4-hydroxy E2 (PubMed:23821647). Metabolizes testosterone and progesterone to B or D ring hydroxylated metabolites (By similarity). 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: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:15258110). Additionally, displays dehydratase activity toward oxygenated eicosanoids hydroperoxyeicosatetraenoates (HpETEs). This activity is independent of cytochrome P450 reductase, NADPH, and O<sub>2</sub> (By similarity). Also involved in the oxidative metabolism of xenobiotics, particularly converting polycyclic aromatic hydrocarbons and heterocyclic aryl amines procarcinogens to DNA-damaging products (By similarity). Plays an important role in retinal vascular development. Under ambient/hyperoxic O<sub>2</sub> conditions, promotes angiogenesis and capillary morphogenesis of retinal endothelial cells and pericytes, likely by metabolizing the oxygenated products symptomatic of oxidative stress (PubMed:19005183, PubMed:20032512, PubMed:23568032). Also, contributes to oxidative homeostasis and ultrastructural organization and function of trabecular meshwork tissue through modulation of POSTN expression (PubMed:23979599).[UniProtKB/Swiss-Prot Function]