

Product datasheet for **MG208663**

Cyp1b1 (NM_009994) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cyp1b1 (NM_009994) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Cyp1b1
Synonyms:	CP1B; P4501b1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG208663 representing NM_009994
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCACCAGCCTTAGTGCAGACAGTCCACAGCAGCTGAGCTCGCTGTCTACCCAGCAGACCCTCTTC
 TGCTACTCTTCTCCGTCTCGCCCGCTGCACTTAGGCCAGTGGCTGCTGCGACAGTGGCAACGGAAACC
 GTGGTCTCGCCCCAGGTCCCTTTCTTGCCACTGATCGGAAACGCGCGGCTGTTGGCCAGGCGTCG
 CACTTGTACTTCGCTCGCCTTGAAGGCCTATGGCGACGTTTTCCAGATCCGTCTGGGAGCTGTCCCG
 TGGTGGTCTGAATGGAGAGAGTGCCATCCACCAGGCCCTGGTGCAGCAGGGCAGCATCTTCGCGGACCG
 GCCGCCCTTCGCCTTTCCGTGTGGTGTCTGGTGGCCGAGTCTGGCGTTGGTCACTACTCTGAGCAC
 TGAAGACGCAGCGACGCTCGGCTATAGCAGATGCGTCTTTCCACGCGCCACCCGCGCAGTCGCG
 GTCTTCTCGAGGGCCACGCGCTGGCAGAGGCTCGAGAATTGGTGGCAGTCTGGTGGCGCTGTGCGGG
 CGCGCCCTTCTCGATCCAACGCAGCCGGTCATTGTGGCGGTGGCAACGTCATGAGCGCTGTGTCTTC
 GGCTGTGGTACAACCACGACGATGCGGAGTTCCTAGAGCTGCTCAGCCACAATGAGGAGTTCGGGCGCA
 CAGTGGGTGCGGGCAGCCTGGTGGATGTCTGCCCTGGCTGCAGCTATTTCCCAACCCGGTGCACACC
 CTTCCGCAAGTTCGAGCAGCTCAACCGCAACTTCAGCAACTTCGTTCTGGACAAGTTCCTGAGGCACCGC
 GAAAGCCTGGTGGCCGGGCTGCTCCTCGAGACATGACGGACGCCTTCATCCTCTCTGCCAAAAGAAAAG
 CGTCTGGGGCCCTGGCGACGATTCCTCCGGCTGGACTTGGAGGATGTGCTGCCACTATTACGGACAT
 CTTCCGAGCCAGCCAGGACACCTTTCCACCGCGCTGCTGTGGCTGCTCATCCTCTTTACCAGATACCCG
 GATGTTCCAGCCCGCTGTCAGGCTGAGTTGGACCAGGTTGTGGGAGGGACCCGCTGCCCTGCATGAGTG
 ACCAGCCCAACCTGCCATATGTCATGGCTTTTCTTTATGAATCAATGCGATTCTCCAGCTTTTTCGCTGT
 CACCATTCCACACGCCACCACCGCAACACCTTTGTTTTAGGTTACTACATCCCCAAGAATACGGTCGTT
 TTTGTTAACCAAGTGGTCTGTGAATCATGACCCAACCAAGTGGCCTAACCCAGAGGACTTTGATCCAGCCC
 GCTTCTGGACAAGGACGGCATATTAACAAGGCGCTAGCCAGCAGTGTGATGATATTCTCAGTGGGCAA
 ACGGAGGTGCATCGGTGAGGAACTGTCTAAGATGCTTCTGTTTCTCTTCCATCCTCGCTCATCAG
 TGCAATTTCAAGGCTAACCAAAATGAGTCTCAAACATGAGTTTCAGTTATGGCTGACCATTAAGCCCA
 AGTCGTTTAGAATCCATGTGTCTCTCAGAGAGTCGATGGAACCTCGGATAATGCTGTTAAAAAGCTGCA
 AACTGAGGAAGGCTGCAAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG208663 representing NM_009994
 Red=Cloning site Green=Tags(s)

MATSLADSPQQLSSLSTQQTLLLLFSVLAAVHLGQWLLRQWQRKPWSSPPGPFWPLIGNAAAVGQAS
 HLYFARLARRYGDVFIQLGSCPVVVLNGESAIHQALVQQGSIFADRPPFASFRVVS GGRSLAFGHYSEH
 WKTQRRSAYSTMRAFSTRHPRSRGLLEGHALAEARELVAVLVRRRCAGGAFLDPTQPVIVAVANVMSAVCF
 GCRYNHDDAEFLELLSHNEEFGRTVGAGSLVDVLPWLQLFPNPVRTTFRKFEQLNRNFSNFVLDKFLRHR
 ESLVPGAAPRDMTDAFILSAEKKASGAPGDDSSGLDLEDVPATITDIFGASQDTLSTALLWLLILFTRYP
 DVQARVQAEQVVRDRLPCMSDQPNLPYVMAFLYESMRFSFLPVTIPHATTANTFVLGYIIPKNTVV
 FVNQSVNHDPTKWPNEFDPARFLDKDGIINKALASSVMIFSVGKRRCIGEELSKMLLFLFISILAHQ
 CNFKANQNESSNMSFSYGLTIKPKSFRIHVSLRESMELLDNAVKKLQTEEGCK

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-Mlul

ACCN:	NM_009994
ORF Size:	1629 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
Components:	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).
Reconstitution Method:	<ol style="list-style-type: none"> 1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 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.
RefSeq:	NM_009994.1 , NP_034124.1
RefSeq Size:	5128 bp
RefSeq ORF:	1632 bp
Locus ID:	13078
UniProt ID:	Q64429
Cytogenetics:	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 O₂ (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 O₂ 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]