

## Product datasheet for **MC201022**

### **Cyp46a1 (NM\_010010) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Cyp46a1 (NM_010010) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Cyp46a1
Synonyms:	Cyp46
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >BC018307 sequence for NM\_010010  
 CGGGGCCTGGGGCCGAGGCGGCGCAGCGCTGACAGCTAGTCGGTTCGCAGCCTCCGGCCCCCTCTGCAC  
 CGGCGCCGACCACGAGCCATGAGCCCCGGGCTGCTGCTGCTCGGCAGCGCCGCTCTGCTCGCCTTCGGCC  
 TCTGCTGCACCTTCGTGCATCGCGCTCGCAGCCGCTATGAGCACATCCCCGGGCCGCCGGCCAGCTT  
 CCTTCTTGGACATCTCCCTACTTTTGGAAAAAGGACGAAGATTGTGGCCGTGTGCTCCAAGATGTGTTT  
 CTGGATTGGGCTAAGAAGTATGGTCTGTGTAAGAGTCAATGTCTTCTACAAGACCTCAGTCATTGTCA  
 CGAGTCCGGAGTCAGTCAAGAAGTTCCTGATGTCCACCAAGTACAACAAGGACTCCAAGATGTACCGCGC  
 GCTTCAGACTGTGTTTGGGGAGAGACTGTTTGGCCAGGGCTTGGTGTCTGAATGTGACTATGGGCGCTGG  
 TACAAGCAGAGGAAAGTCATGGACTTGGCCTTACGCCGAGCTCCTTGGTCAGCCTGATGGAGACGTTCA  
 ACGAGAAGGCGGAGCAGCTGGTGGAAATCTAGAAGCTAAGGCAGATGGACAGACACCCGTGTCCATGCA  
 GGACATGCTGACCTGTGCCACCATCGACATCCTGGCCAAGGCAGCTTTTGGGATGGAGACCAGTATGTTA  
 CTGGGTGCCAGAAACCCTGTCCCAGGCAGTGAAGGTCATGCTGGAGGGCATCAGTGCATCCCATAACA  
 CCCTGGCAAAGTTCATGCCAGGGAAGAGAAAGCAGCTTCGGGAGATCCGCGAGAGCATCCGTCTGCTGCG  
 CCAGGTGGGAAGGATTGGTGCAGCGCCGCCGAAGCCCTGAAGAGGGGCGAGGACATGCCGGCTGAC  
 ATCCTCACGCAGATCCTCAAAGTGAAGAGGGAGCTCAGGACGATGAGGTTCTGCTGGACAACTTTGTCA  
 CCTTCTTCAATGCGGGTCATGAGACTTCTGCCAACCATCTGGCATTACAGTGATGGAGTTGTCTGCCA  
 GCCAGAGATCGTGGCAAGGCTGCAGGCCAGGTGGATGAGGTTGTCGGTTCCAAGAGGCACCTGGACTAC  
 GAGGATCTGGGGAGACTGCAGTATCTGTGCGAGGTCCTCAAAGAGTCTCTGAGGCTGTACCCGCCAGCGT  
 GGGGCACCTTTTCGCTGCTGGAGGAGGAGACCTTGATTGATGGGGTCAGAGTCCCTGGCAATACTCCTCT  
 CCTGTTACGACCTACGTATGGGGAGAATGGACACCTACTTTGAAGACCATTGACTTTCAACCCTGAC  
 CGCTTCGGCCCTGGAGCGCCCAAGCCACGGTTCACCTTACTTTCCCTTTCCCTGGGCCACCGGTCTGCA  
 TCGCCAAACAGTTTGTCTCAGATGGAGGTGAAAGTTGTATGGCCAAGCTGCTTCAAGGATCGAGTTCGG  
 GCTGCTGGGCGAGCGCTTTGGGCTGCAAGAGCAGGCTACGCTCAAGCCATTGGACCCCGTGTGTC  
 ACCCTGAGGCCCCCGGGCTGGCAGCCTGCACCCCAACCCACCCCTGCTGAGCCCTGGGTAAAGTCAAGAC  
 TCCTTGGACCAGGCCTCATTGGCCCCATTACTGCCATGGCCACCCACCGGCACCCCTGACCCTTCTG  
 CCACCTTCCAGATGGCTCCTGGCGAGCCCTGTCCCCTCGCTGCTTACACCCTCAGTGTCTCCTGTCA  
 TCGCTGGCTTTTTCAGCTCTTTCTGGTGGCCCTGCCTGACTCCCAGCTATCACCACAACCTACCATCGTCT  
 CTCCAAACCTCCGAACCTTCTGCACTGGCCACACCCTCAAAGAGACACCCTAACTTGTCTCACTCCCT  
 AAACCTTCAAGTGACATGTCCCCAGGAAGCCCTGTTTGTCTTCTCACAGCCAGGCCAGGGTCTCTCCTC  
 TGTGCTCTACCTTAACACACTGACCACACTGATTGTGAATGTTTGTCTCATGTGACCAGCTGCCCTGC  
 CAGGCTGTGAGGGCCACAGGGCAGGGTCTGTGTGCACTTTGCCTCTGAGGCCCTATTGCTCACTAGGGT  
 CTGGAACAGAGTCGATGCCCAATAAACGTGTGTTGACTGCAAAAAAAAAAAAAA

**Restriction Sites:** RsrII-NotI

**ACCN:** NM\_010010

**Insert Size:** 1503 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

<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>	<u><a href="#">BC018307</a></u> , <u><a href="#">AAH18307</a></u>
<b>RefSeq Size:</b>	2155 bp
<b>RefSeq ORF:</b>	1503 bp
<b>Locus ID:</b>	13116
<b>UniProt ID:</b>	<u><a href="#">Q9WVK8</a></u>
<b>Cytogenetics:</b>	12 F1
<b>Gene Summary:</b>	<p>P450 monooxygenase that plays a major role in cholesterol homeostasis in the brain. Primarily catalyzes the hydroxylation (with S stereochemistry) at C-24 of cholesterol side chain, triggering cholesterol diffusion out of neurons and its further degradation (PubMed:10377398, PubMed:16505352, PubMed:28190002). By promoting constant cholesterol elimination in neurons, may activate the mevalonate pathway and coordinate the synthesis of new cholesterol and nonsterol isoprenoids involved in synaptic activity and learning (PubMed:16505352). Further hydroxylates cholesterol derivatives and hormone steroids on both the ring and side chain of these molecules, converting them into active oxysterols involved in lipid signaling and biosynthesis (By similarity). Acts as an epoxidase converting cholesta-5,24-dien-3beta-ol/desmosterol into (24S),25-epoxycholesterol, an abundant lipid ligand of nuclear NR1H2 and NR1H3 receptors shown to promote neurogenesis in developing brain (By similarity). May also catalyze the oxidative metabolism of xenobiotics, such as clotrimazole (By similarity).[UniProtKB/Swiss-Prot Function]</p>