

## Product datasheet for **MC205465**

### **Cyp27a1 (NM\_024264) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Cyp27a1 (NM_024264) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Cyp27a1
Synonyms:	1300013A03Rik; Cyp27
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >BC055028  
CTGGATCTAAACTCTTGGCTTCTCGGGCACGATCCATGGCTGCGTGGAGCCGCACGAGGCTGAGATGGAC  
GCTCCTGGACCCGCGTGTGGTGGGCCGTGGCCTCTGCCACAAGGGGCCAGAGCCAAGGCCACGATCCCT  
GCAGCCCTCCAGGCACAGGAGAGTACGGAGGGTCCAGGAACAGGTCAAGACCCGGCCGCGCTGCGGAGTC  
CGGCGGAGCTCCGGGGACCGGAACGCTACAATTTTTATTCCAGTATTTCTACAAGGCTATGTGCTGCA  
CTTGCCCGACCTCCAGGTGCTGAACAAGACCAAGTATGGTCCAATGTGGACAACCTCCTTTGGGACTTAC  
ACCAATGTGAATCTGGCTAGTGCCCACTCTTGGAGCAAGTATGAGACAGGAGGCAAGTACCCAATAA  
GAGACCACATGGATCAGTGAAGGACCACCGAGACCACAAGGGCCTCACCTATGGGATCTTCATCGCACA  
AGGAGAGCAATGGTACCATCTGCGTCAGGCTTTGAAACAGAGGCTGCTGAAGCCTGACGAGGCCGCGCTC  
TACACGGATGCCTTAAACGAGGTTATCAGTGACTTTATCACCCGGCTGGACCAGGTGCGGGCAGAGAGTG  
AATCAGGGGACCAGGTGCCAGACATGGCTCATCTTCTCTACCACCTTGCCTTGAAGCCATCACCTATAT  
CCTGTTTGAGAAAAGGATTGGCTGCCTGAAACCCTCCATTCTGAGGACACTGCCGCTTATCAGATCT  
GTTGCAATCATGTTCCAGAACTCAGTCTATATCACTTTCTTCCAAATGGACGCGTCTCTGCTGCCCT  
TTTGAAGCGATACCTGAATGGTGGGATAACATTTTCTCTTTGAAAGAAGCTGATTGATGAAAAAGT  
CCAGGAGCTAAAAGCCCAGCTACAGGAACTGGGCCAGATGGAGTCCGGGTATCTGGCTACCTGCACTTC  
CTGCTGACCAATGAATTGCTCAGTACTCAGGAGACCATCGGCACCTTTCTGAGCTGCTTTTGGCTGGGG  
TGGACACGACATCCAACACACTGACATGGGCCCTGTACCACCTTTCAAAGAGCCCAGAGATCCAGGAGGC  
CTTGACACAAGGAAGTGACTGGTGTGGTGCCTTCGGGAAGGTGCCCCAGCACAAGGACTTTGCCACATG  
CCTCTGCTAAAAGCTGTGATTAAGGAGACCCTGCGCCTTACCCTGTGGTTCCCAAAAACCCCGGATCA  
TCACAGAAAAGGAAACTGAAATTAATGGCTTTCTTCCCAAGAATACACAGTTTGTGTTATGCCACTA  
CGTGGTGTCCCGGATCCAGTGTCTTCTGAGCCCAACAGCTTCCAGCCTCACCGATGGCTGAGGAAG  
AAAGAGGCTGATAACCTGGGATCTACATCCATTGCGCTCTGTGCCCTTCGGCTATGGGTTTCGGTCTT  
GCCTGGTCCGAGGATTGCAGAACTGGAGATGCAACTGATGCTCAAGGCTGGTACAGAAGTATGAGAT  
TGCCCTGCTCCCGGATGGGAGAAGTAAAGACTGTGTCCCGCATCGTCTGTTCCAGCAAGAAGGTG  
AGGCTGCATTTTCTGAGAGACAGTAGTACCGAGCTGGGCTCCCGCTTTCATGGAGCTCGTCCAGAAGCC  
CTGGCACAGAAGTTCTTGGCCAGTCTCATGTCACATGTCACGATGTCAGATTCAACAGGAGAAGTCTGTG  
CCCTTCTATAGACACCAATGTCTGGCACAATCTCTACTGAGCAGCACCCACTTAAGACAGCAGAGCAC  
CTTATAATAACAGTCCTTGGGTATGATTTAAAATAAAATTTAAAATTCAAAAAAAAAAAAAA

**Restriction Sites:** RsrII-NotI

**ACCN:** NM\_024264

**Insert Size:** 1602 bp

**OTI Disclaimer:** 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).

**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:**

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:** [BC055028](#), [AAH55028](#)

RefSeq Size: 1883 bp

RefSeq ORF: 1602 bp

Locus ID: 104086

UniProt ID: [Q9DBG1](#)

Cytogenetics: 1 38.54 cM

**Gene Summary:** Cytochrome P450 monooxygenase that catalyzes regio- and stereospecific hydroxylation of cholesterol and its derivatives. Hydroxylates (with R stereochemistry) the terminal methyl group of cholesterol side-chain in a three step reaction to yield at first a C26 alcohol, then a C26 aldehyde and finally a C26 acid. Regulates cholesterol homeostasis by catalyzing the conversion of excess cholesterol to bile acids via both the "neutral" (classic) and the "acid" (alternative) pathways. May also regulate cholesterol homeostasis via generation of active oxysterols, which act as ligands for NR1H2 and NR1H3 nuclear receptors, modulating the transcription of genes involved in lipid metabolism (By similarity). Plays a role in cholestanol metabolism in the cerebellum (PubMed:28190002). Similarly to cholesterol, hydroxylates cholestanol and may facilitate sterol diffusion through the blood-brain barrier to the systemic circulation for further degradation. Also hydroxylates retinal 7-ketocholesterol, a noxious oxysterol with pro-inflammatory and pro-apoptotic effects, and may play a role in its elimination from the retinal pigment epithelium. May play a redundant role in vitamin D biosynthesis. Catalyzes 25-hydroxylation of vitamin D3 that is required for its conversion to a functionally active form (By similarity).[UniProtKB/Swiss-Prot Function]