

Product datasheet for **MR208027**

Cyp46a1 (NM_010010) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cyp46a1 (NM_010010) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cyp46a1
Synonyms:	Cyp46
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR208027 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAGCCCGGGCTGCTGCTGCTCGGCAGCGCCGTCTGCTCGCCTTCGGCCTCTGCTGCACCTTCTGTGC
 ATCGCGCTCGCAGCCGCTATGAGCACATCCCCGGGCCCGCGGCCAGCTTCTTCTTGACATCTCCC
 CTACTTTTGAAAAAGGACGAAGATTGTGGCCGTGTGCTCCAAGATGTGTTTCTGGATTGGGCTAAGAAG
 TATGGTCTGTTGAAGAGTCAATGTCTTCTACAAGACCTCAGTCATTGTCACGAGTCCGGAGTCAGTCA
 AGAAGTTCCTGATGTCCACCAAGTACAACAAGGACTCCAAGATGTACCGCGCTTCAGACTGTGTTTGG
 GGAGAGACTGTTTGGCCAGGGCTTGGTGTCTGAATGTGACTATGGGCGCTGGTACAAGCAGAGGAAAGTC
 ATGGACTTGGCCTTCAGCCGAGCTCCTTGGTCAGCCTGATGGAGACGTTCAACGAGAAGCGGAGCAGC
 TGGTGGAAATCCTAGAAGCTAAGGCAGATGGACAGACACCCGTGTCCATGCAGGACATGCTGACCTGTGC
 CACCATCGACATCTGGCCAAGGCAGCTTTTGGGATGGAGACCAGTATGTTACTGGTGCCAGAAACCG
 CTGTCCCAGGCAGTGAAGGTCATGCTGGAGGGCATCAGTGCATCCCGTAACACCTGGCAAAGTTTATGC
 CAGGGAAGAGAAAAGCAGCTTCGGGAGATCCGCGAGAGCATCCGTCTGCTGCGCCAGGTGGGGAAGGATTG
 GGTGCAGCGCCGCGGAAGCCCTGAAGAGGGGCGAGGACATGCCGGTGCATCCTCACGAGATCCTC
 AAAGCTGAAGAGGGAGCTCAGGACGATGAGGTTCTGCTGGACAACCTTGTACCTTCTTATTGCGGGTC
 ATGAGACTTCTGCCAACCATCTGGCATTACAGTGATGGAGTTGTCTCGCCAGCCAGAGATCGTGGCAAG
 GCTGCAGGCCGAGGTGGATGAGGTTGTGCGTTCCAAGAGGCACCTGGACTACGAGGATCTGGGGAGACTG
 CAGTATCTGTGCGAGGTCCTCAAAGAGTCTCTGAGGCTGTACCCGCCAGCGTGGGACACCTTTCGCTGT
 TGGAGGAGGACCTTGATTGATGGGGTCAGAGTCCCTGGCAATACTCCTCTCTGTTTTCAGCACCTACGT
 CATGGGGAGAATGGACACCTACTTTGAAGACCCATTGACTTTCAACCCTGACCGCTTCGGCCCTGGAGCG
 CCCAAGCCACGGTCACTTACTTTCCCTTTCCCTGGGCCACCGTCTGCATCGGCCAACAGTTTGCTC
 AGATGGAGGTGAAAGTTGTATGGCCAAGCTGCTCAGAGGATCGAGTTCGGCTAGTGCCTGGGCAGCG
 CTTTGGGCTGCAAGAGCAGGCTACGCTCAAGCCATTGGACCCCGTGTGTGCACCCTGAGGCCCGGGGG
 TGGCAGCTGCACCCCAACCCACCTGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR208027 protein sequence
 Red=Cloning site Green=Tags(s)

MSPGLLLLGSAVLLAFGLCCTFVHRARSRYEHIPGPPRPSFLLGHLPYFWKKDEDCGRVLQDVFLDWAKK
 YGPVVRVNVFYKTSVIVTSPESVKKFLMSTKYNKDSKMYRALQTVFGERLFGQLVSECDYGRWYQRKV
 MDLAFSRSSLVSLMETFNEAEQLVEILEAKADGQTPVSMQDMLTCATIDILAKAAFGMETSMLLGAQKP
 LSQAVKVMLEGISASRNFLAKFMPGKRKQLREIRESIRLLRQVGKDWVQRRREALKRGEDMPADILTQIL
 KAEEGAQDDEVLLDNFVTFIAGHETSANHLAFTVMELSRQPEIVARLQAEVDEVVSGSKRHLDYEDLGRLL
 QYLSQVLKESRLYPPAWGTFRLLEEETLIDGVRVPGNTPLLFSTYVMGRMDTYFEDPLTFNPDRFGPGA
 PKPRFTYFPFSLGHRSCIGQQAQMEVKVVMKLLQRIEFRLVPGQRFGLQEATLKPLDPVLCVLRPRG
 WQPAPPPPPC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_010010

ORF 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 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](#)

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).

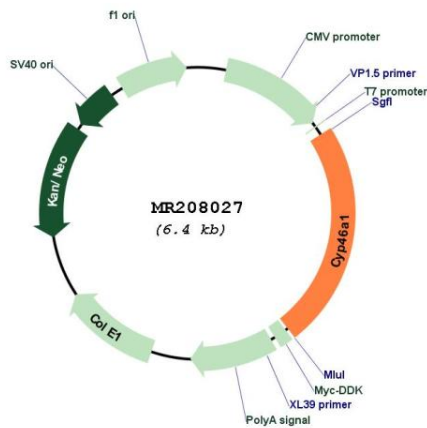
- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the 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_010010.1](#), [NP_034140.1](#)

RefSeq Size: 2146 bp
 RefSeq ORF: 1503 bp
 Locus ID: 13116
 UniProt ID: [Q9WVK8](#)
 Cytogenetics: 12 F1
 MW: 56.8 kDa

Gene Summary: 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]

Product images:



Circular map for MR208027