

Product datasheet for **RR209639**

Cyp4x1 (NM_145675) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cyp4x1 (NM_145675) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cyp4x1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



[View online »](#)

ORF Nucleotide Sequence:

>RR209639 representing NM_145675
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGAGGCTCCTGGCTGGAGAATCGTGGGCGGCCCTTACACCTGGCTTTGGTGTCTGCCTGGCGC
 TGGTGCTGATGCAGGCCGTGAAGCTCTACCTGAGAAGACAGAGGCTGCTGCGCGACTACGCCCTTCCC
 GGGTCTACCGCCACTGGCTCCTGGGACACCAGAAGTTTCTTCAGGAGGATAATATGGAGAAGCTTGAC
 GAGATTGTCAAAGAGTACCCTTGCCTTCCCCTGCTGGGTAGGACCCTTCCAAGCATTTTTCTACATCT
 ATGACCCAGACTATGCAAAGATTTTTCTGAGCAGAACAGACCCAAAGACCCAGTACCTGCACCAGCTCAT
 GACTCCCTTTCTGGAAGAGGACTCCTGAATTTAGATGGGCCAGGTGGTTCCAACACCGCTGCCTCCTG
 ACTCCTGCGTTCCATCAGGACATCTAAAACCATGTGTGGACATGATGGCCACTCTGTGAACATGATGC
 TGGATAAATGGGAGAAGACGTGGACCACGAGGAAACAACCATCGAGGTTTTTGAACACATTAACCTGAT
 GACCCTGGACATAATAATGAAATGTGCTTTTGGCCAGGAGACCAACTGCCAGATAAACGGCACCTATGAG
 TCTTATGTGAAGCAACATTTGAACTTGGTGAATCATATCTTCTCGCTTGTACAATTTCTGGCATTATC
 ATGACATAATTTTCAAACCTCAGTCTTAAGGGCCACTGCTTCCAGGAGTTAGGCAAAGTGATACATCAATG
 CACAGAAAAGATTATCCAGGACAGAAAAGAAACCTCAAGGATCAAGTAAATCAGGATGACACTCAAACA
 TCTCAAAATTTCTGGATATTGTTCTTTCTGCCAGGCTGGAGATGAAAAGGCCTTCTCAGATGCTGACC
 TTCGGTCTGAGGTGAACACCTTCATGTGGGACAGACACGACCTCTGCAGCTAGCATCTCCTGGCTCCT
 TTAAGTCTGGCTCTGAACCTGAGCATCAAGACAGATGCCGGACAGAGATCAGGAGCATTCTGGGAGAT
 GGGTCTCCATCACCTGGGAACAGCTGGATGAGATACCTTACACTACAATGTGCATCAAGGAGACACTCC
 GCTTGATTCTCCATCCATCCATCCATCTCCAGGAACTCAGCAAACCCCTTACCCTCCAGATGGACTC
 GCTGCCTGCAGGAATGACTGTGGTCCTTAGTATTTGGGGTCTCCACCACAATCCTGCTGTCTGAAAAGAC
 CCAAAGGTCTTTGACCCTTTGAGATTAAGGAGAATTCTGAACAGAGACACCCTGCGCCTTCTAC
 CATTCTCCAGTGGTCCAAGGAACTGCATCGGGCAGCAGTTTCCATGCTGGAGTTAAAGGTGGCCATTGC
 CTTGACTCTGCTCCGCTCCGAGTAGCTGCAGACCTCACCAGGCCTCCTGCCTTCTCCAGCCACACTGTG
 CTCAGACCAAGCATGGGATCTATTTGCACCTGAAGAACTCCCTGAATGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RR209639 representing NM_145675
 Red=Cloning site Green=Tags(s)

MEASWLENRWARPLHLALVFCLALVLMQAVKLYLRRQRLLRDLRPFPGPTAHWLLGHQKFLQEDNMEKLD
 EIVKEYPCAFPCWVGFQAFYIYDPDYAKIFLSRTDPKTQYLHQLMTPFLGRGLLNLDGPRWFQHRCLL
 TPAFHQDILKPCVDMMAHSVNMMLDKWEKTWTTQETTIEVFEHINLMTLDIIMKCAFQETNCQINGTYE
 SYVKATFELGEIISRLYNFWHHHDIIFKLSPKGHCFQELGKVIHQCTEKIIQDRKTKLKDQVNQDDTQT
 SQNFLDIVLSAQAGDEKAFSDADLRSEVNTFMWAGHDASAASISWLLYCLALNPEHQDRCRTEIRSILGD
 GSSITWEQLDEIPYTTMCIKELRLIPPISISRELSKPLTLPDGHSLPAGMTVVL SIWGLHHPAVWVKD
 PKVFDPLRFTKENSEQRHPCAFLPFSSGPRNCIGQQFAMLELKVAIALTLRFRVAADLTRPPAFSSHTV
 LRPKHGIYHLKLLPEC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

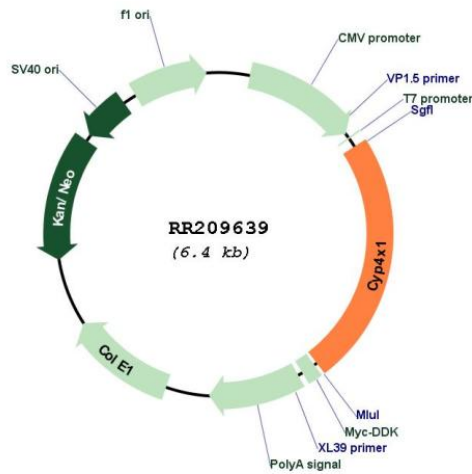
Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



Plasmid Map:



ACCN: NM_145675

ORF Size: 1521 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:

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_145675.1](#), [NP_663708.1](#)

RefSeq Size: 1524 bp

RefSeq ORF: 1524 bp

Locus ID: 246767

UniProt ID: [Q8K4D6](#)

Cytogenetics: 5q35

MW: 58.6 kDa

Gene Summary: A cytochrome P450 monooxygenase that selectively catalyzes the epoxidation of the last double bond of the arachidonoyl moiety of anandamide, potentially modulating endocannabinoid signaling. Has no hydroxylase activity toward various fatty acids, steroids and prostaglandins. 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 (CPR; NADPH-ferrihemoprotein reductase). [UniProtKB/Swiss-Prot Function]