

## Product datasheet for **SC120818**

### Cytochrome P450 2A6 (CYP2A6) (NM\_000762) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Cytochrome P450 2A6 (CYP2A6) (NM_000762) Human Untagged Clone
Tag:	Tag Free
Symbol:	Cytochrome P450 2A6
Synonyms:	CPA6; CYP2A; CYP2A3; CYP11A6; P450C2A; P450PB
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL4</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene ORF within SC120818 sequence for NM\_000762 edited (data generated by NextGen Sequencing)

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ATGCTGGCCTCAGGGATGCTTCTGGTGGCCTTGCTGGTCTGCCTGACTGTGATGGTCTTG
ATGTCTGTTTGGCAGCAGAGGAAGCAAGGGGAAGCTGCCTCCGGGACCCACCCATTG
CCCTTCATTGGAACTACCTGCAGCTGAACACAGAGCAGATGTACAACCCCTCATGAAG
ATCAGTGAGCGCTATGGCCCCGTGTTACCATTCACTTGGGGCCCCGGCGGGTCGTGGTG
CTGTGTGGACATGATGCCGTGAGGAGGCTCTGGTGGACCAGGCTGAGGAGTTACGCGGG
CGAGGCGAGCAAGCCACCTTCGACTGGGTCTTCAAAGGCTATGGCGTGGTATTCAGCAAC
GGGGAGCGCGCCAAGCAGCTCCGCGCTTCTCCATCGCCACCCTGCGGGACTTCGGGGTG
GGCAAGCGAGGCATCGAGGAGCGCATCCAGGAGGAGGCGGGCTTCTCATCGACGCCCTC
CGGGGACTGGCGGCGCCAATATCGATCCACCTTCTTCTGAGCCGCACAGTCTCCAAT
GTCATCAGCTCCATTGTCTTTGGGGACCGCTTTGACTATAAGGACAAAGAGTTTCTGTCA
CTGTTGCGCATGATGCTAGGAATCTTCCAGTTCACGTCAACCTCCACGGGCGAGTCTAT
GAGATGTTCTCTCGGTGATGAAACACCTGCCAGGACCACAGCAACAGGCCTTTTCAAGTTG
CTGCAAGGGCTGGAGACTTCATAGCCAAGAAGTGGAGCACAACCAGCGCACGCTGGAT
CCCAATCCCCACGGGACTTCATTGACTCCTTTCTCATCCGCATGCAGGAGGAGGAGAAG
AACCCCAACACGGAGTTCTACTTAAAAACCTGGTGTGACCACGTTGAACTCTTCATT
GGGGCACCGAGACCGTCAAGCACCCTGCGCTATGGCTTCTTGTGCTCATGAAGCAC
CCAGAGGTGGAGGCCAAGGTCCATGAGGAGATTGACAGAGTATCGGCAAGAACCAGGCG
CCCAAGTTTGGAGACCGGGCCAAGATGCCCTACATGGAGGCGAGTATCCACGAGATCCAA
AGATTTGGAGACGTGATCCCATGAGTTTGGCCCGCAGAGTCAAAAAGGACACCAAGTTT
CGGGATTTCTTCTCCCTAAGGGCACCGAAGTACCCTATGCTGGGCTCTGTGCTGAGA
GACCCAGTTTCTTCCAACCCAGGACTTCAATCCCAGCACTTCTGATGAGAAG
GGGCAGTTTAAGAAGAGTATGCTTTTGTGCCCTTTTCCATCGGAAGCGGAACTGTTTC
GGAGAAGGCTTGCCAGAATGGAGCTTTTCTTCTTACCACCGTCATGCAGAACTTC
CGCCTCAAGTCTCCAGTACCTAAGGACATTGACGTGTCCCCAAACAGTGGGCTTT
GCCACGATCCCACGAACTACACCATGAGCTTCTGCCCCGCTGA
    
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Clone variation with respect to NM\_000762.5  
51 a=>g

**5' Read Nucleotide Sequence:**

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>OriGene 5' read for NM_000762 unedited
AGGAATTTGTAATACGACTCACTATAGGCGGCCCGCAATTCGCACCATCCACCATGCTG
GCCTCAGGGATGCTTCTGGTGGCCTTGCTGGTCTGCCTGACTGTGATGGTCTTGTATGCT
GTTTGGCAGCAGAGGAAGATCAAGGGGAAGCTGCCTCCGGGACCCACCCATTGCCCTTC
ATTGAAAACCTACCTGCAGCTGAACACAGAGCAGATGTACAACCCCTCATGAAGATCAGT
GAGCGCTATGGCCCCGTGTTACCATTCACTTGGGGCCCCGGCGGGTCGTGGTCTGTGTG
GGACATGATGCCGTGAGGAGGCTCTGGTGGACCATGCTGAAGAGTTCAGCGGGCGATGC
GAGCAAGCCACCTTCGACTGGGTCTTCAAAGGCTATGGCGTGGTATTCAGCAACGGGGAG
CGCGCCAAGCAGCTCCGGCGCTTCTCCATCGCCACCCTGCGGGACTTCGGGGTGGGCAAG
CGAGGCATCGAGGAGCGCATCCAGGATGATGCGGGCTTCTCATCGACGCCCTCCGGGGC
ACTGGCGGCGCCAATATCGATCCACCTTCTTCTGAGCCGCACAGTCTCCAATGTCATC
AGCTCCATTGTCTTTGGGGACCGCTTTGACTATAAAGACAAAGAGTTCTGTCACTGTTG
CGCATGATGCTAAGAATCTTCCAGTTCACGTCAACCTCCACGGAGCAGCTCTATGAGATG
TTCTCTCGGTGATGAAACACCTGCCATGACCACAGCATCAGGCCTTTTCAATTTGCTGCAA
GGGCTGGATGACTTCATAGCCAAGAATGTGGAGCACAACCAGCGCACGCTGGATCCCANN
TCCCACGNACTCATTGACTCCTTCTATCGCTGCAGGAGGATGATATATCCCACACGNGT
TCTACTGAAACCTGTGATGACACGCTGACTCTCATGGGGGACGAGACGTAGCACACCTG
GCTT
    
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<b>3' Read Nucleotide Sequence:</b>	>OriGene 3' read for NM_000762 unedited CCGATTGGCACTGGGAGGGGTCACAGGGATGCCACCCGGGATCTGTTCAGGAAACAGCT ATGACCTTGGCCGAATCTAGAGTCGAGTTTTTTTTTGGTTTTTTTTTCAGGAAATAAGAG CTGCTATTACTACTCTTCATAGCATAATGTAAGGGTTTCCTCCTCATCCCAGCT CGGAAGCACCTTATCAAGGTGAAGTGAAGCCCTTCTGTTTCTTCTTCCCTCTAGCCAC CAGCCCTTCCCTTCCCGCATCTTCCCCCATTCTTATACCCGCCTCTCCGCGAACCC CGCCTGACCCCGCCTTCCCTGGCCCCGCCACCAGACCTGCACCGGCACAGCCCTCGC TCAGCGGGCAGGAAGCTCATGGTGTAGTTTTCGTGGGATCGTGGCAAAGCCACGTGTTT GGGGACACGTCAATGTCTTAGGTGACTGGGAGGACTTGAGGCGAAAGTTCTGCATGAC GGTGGTGAAGAAGAGAAAGAGCNCATTCTGCCAGCCTTCTCGANACAGTTTCGCTTTC CGATGGAAAAGGCACANNAGCATCACTCTCTTTAACTGCCCTTCTATTANGAAGTGC NTGGGATTGAAGTCTTNGGGTTGAGAAGAAAAGTGGGTCTCTCACAAAAGCCAGCAT TAGGTACACTTCGGTGCCTTTAGGGAAGAAGGATCCCCGAANCTGTGGTCTTTTGACTC TCGGGCAAACCTCATGGGTTCACTTTCAATTCTTTGAATCTCGGATCCACTGCTCCGTG G
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_000762
<b>Insert Size:</b>	1800 bp
<b>OTI Disclaimer:</b>	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).
<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="#">NM_000762.4</a></u> , <u><a href="#">NP_000753.2</a></u>
<b>RefSeq Size:</b>	1751 bp
<b>RefSeq ORF:</b>	1485 bp
<b>Locus ID:</b>	1548
<b>UniProt ID:</b>	<u><a href="#">P11509</a></u>
<b>Cytogenetics:</b>	19q13.2
<b>Domains:</b>	p450
<b>Protein Families:</b>	Druggable Genome, P450, Transmembrane

**Protein Pathways:** Caffeine metabolism, Drug metabolism - cytochrome P450, Drug metabolism - other enzymes, Metabolic pathways, Retinol metabolism

**Gene Summary:** This gene, CYP2A6, encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum and its expression is induced by phenobarbital. The enzyme is known to hydroxylate coumarin, and also metabolizes nicotine, aflatoxin B1, nitrosamines, and some pharmaceuticals. Individuals with certain allelic variants are said to have a poor metabolizer phenotype, meaning they do not efficiently metabolize coumarin or nicotine. This gene is part of a large cluster of cytochrome P450 genes from the CYP2A, CYP2B and CYP2F subfamilies on chromosome 19q. The gene was formerly referred to as CYP2A3; however, it has been renamed CYP2A6. [provided by RefSeq, Jul 2008]