

Product datasheet for **RC222995**

Cytochrome P450 2A6 (CYP2A6) (NM_000762) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cytochrome P450 2A6 (CYP2A6) (NM_000762) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cytochrome P450 2A6
Synonyms:	CPA6; CYP2A; CYP2A3; CYP11A6; P450C2A; P450PB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC222995 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGCTGGCCTCAGGGATGCTTCTGGTGGCCTTGTGGTCTGCCTGACTGTGATGGTCTTGATGTCTGTTT
 GGCAGCAGAGGAAGAGCAAGGGGAAGCTGCCTCCGGGACCCACCCATTGCCCTTATTGAAAACCTACCT
 GCAACTGAACACAGAGCAGATGTACAACCTCCATGAAGATCAGTGAGCGCTATGGCCCCGTGTTCAACC
 ATTCACCTTGGGGCCCCGGCGGGTCTGGTGTGTGGACATGATGCCGTGAGGGAGGCTCTGGTGGACC
 AGGCTGAGGAGTTCAGCGGGCGAGGCGAGCAAGCCACCTTCGACTGGGTCTTCAAAGGCTATGGCGTGGT
 ATTCAGCAACGGGGAGCGCGCAAGCAGCTCCGGCGCTTCTCCATCGCCACCTGCGGGACTTCGGGGTG
 GGCAAGCGAGGCATCGAGGAGCGCATCCAGGAGGAGCGGGCTTCTCATCGACGCCCTCCGGGGCACTG
 GCGGGCCCAATATCGATCCACCTTCTTCTGAGCCGCACAGTCTCCAATGTCATCAGCTCCATTGTCTT
 TGGGGACCGCTTTGACTATAAGGACAAAGAGTTCTGTACTGTTGCGCATGATGCTAGGAATCTTCCAG
 TTCACGTC AACCTCCACGGGGCAGCTCTATGAGATGTTCTTCTCGGTGATGAAACACCTGCCAGGACCAC
 AGCAACAGGCCTTTCAGTTGCTGCAAGGGCTGGAGGACTTCATAGCCAAGAAGGTGGAGCACAACCAGCG
 TACGCTGGATCCCAATCCCCACGGGACTTCATTGACTCCTTTCTCATCCGCATGCAAGGAGGAGGAGAAG
 AACCCCAACACGGAGTTCTACTTGAAAACCTGGTGTGATGACCACGTTGAACTCTTATTGGGGGCACCG
 AGACCGTCAGCACCCCTGCGCTATGGCTTCTTGTGCTCATGAAGCACCCAGAGGTGGAGGCCAAGGT
 CCATGAGGAGATTGACAGAGTATCGGCAAGAACCAGCCAGCCAAAGTTTGGAGCCGGGCCAAGATGCC
 TACATGGAGGCAGTATCCAGAGATCCAAGATTTGGAGACGTGATCCCATGAGTTTGGCCCCGAGAG
 TCAAAAAGGACACCAAGTTTCGGGATTTCTTCTCCCTAAGGGCACCGAAGTGTACCCATGCTGGGCTC
 TGTGCTGAGAGACCCAGTTTCTTCTCCAACCCAGGACTTCAATCCCAAGCATTCTGAATGAGAAG
 GGGCAGTTTAAGAAGAGTGTGCTTTTGTGCCCTTTTCCATCGGAAAGCGGAACTGTTTCGGAGAAGGCC
 TGGCCAGAATGGAGCTCTTCTTCTTCCACCAGTGCATGCAGAACTCCGCCTCAAGTCTCCAGCTC
 ACCTAAGGACATTGACGTGTCCCCCAAACAGTGGGCTTGGCCACGATCCACGAAACTACACCATGAGC
 TTCCTGCCCCGC

ACGCGTACGCGGGCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC222995 protein sequence
 Red=Cloning site Green=Tags(s)

MLASGMLLVALLVCLTVMVLMVSWQQRKSKGKLPPTPLPFIGNYLQLNTEQMYNSLMKISERYGPVFT
 IHLGPRRVVVLCGHDAVREALVDQAEFSGRGEQATFDWVFKGYGVVFSNGERAKQLRRFSIATLRDFGV
 GKRGIIEERIQEEAGFLIDALRGTGGANIDPTFFLSRTVSNVISSIVFGDRFDYKDKEFLSLLRMMLGIFQ
 FTSTSTGQLYEMFSSVMKHLPGPQQAFQLLQGLEDFIAKKVEHNQRTLDPNSPRDFIDSLIRMQEEEEK
 NPNTEFYLNKLVMTTLNLFIGGTETVSTTLRYGFLLLMKHPEVEAKVHEEIDRVIGKNRQPKFEDRAKMP
 YMEAVIHEIQRFQDVIPMSLARRVKKDTKFRDFFLPKGTEVYPMLGSVLRDPSFFSNPQDFNPQHFLNEK
 GQFKKSDAFVPPSIGKRNCFGEGLARMEFLFFTTVMQNFRKSSQSPKDIDVSPKHVGFATIPRNYTMS
 FLPR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6450_f07.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_000762

ORF Size: 1482 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000762.6](#)

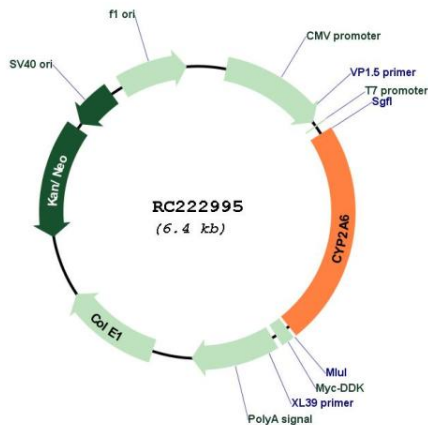
RefSeq Size: 1775 bp

RefSeq ORF: 1485 bp

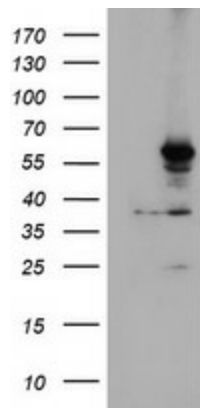
Locus ID: 1548

UniProt ID:	<u>P11509</u>
Cytogenetics:	19q13.2
Domains:	p450
Protein Families:	Druggable Genome, P450, Transmembrane
Protein Pathways:	Caffeine metabolism, Drug metabolism - cytochrome P450, Drug metabolism - other enzymes, Metabolic pathways, Retinol metabolism
MW:	56.5 kDa
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]

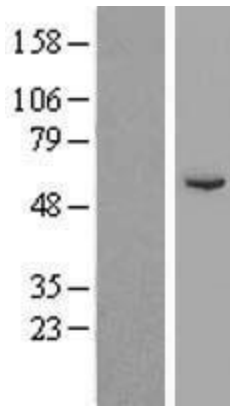
Product images:



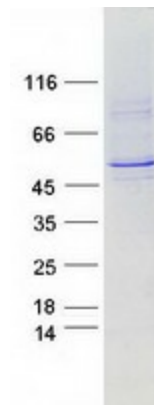
Circular map for RC222995



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CYP2A6 (Cat# RC222995, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CYP2A6 (Cat# [TA503857]). Positive lysates [LY424530] (100ug) and [LC424530] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY424530]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC222995 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYP2A6 protein (Cat# [TP322995]). The protein was produced from HEK293T cells transfected with CYP2A6 cDNA clone (Cat# RC222995) using MegaTran 2.0 (Cat# [TT210002]).