

Product datasheet for **RC221636**

Cytochrome P450 1A2 (CYP1A2) (NM_000761) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cytochrome P450 1A2 (CYP1A2) (NM_000761) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cytochrome P450 1A2
Synonyms:	CP12; CYP1A2; P3-450; P450(PA)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC221636 representing NM_000761
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCATTGTCCCAGTCTGTTCCCTTCGCGCCACAGAGCTTCTCCTGGCCTCTGCCATCTTCTGCCTGG
 TATTCTGGGTGCTCAAGGGTTTGTAGGCCTCGGGTCCCCAAGGCCTGAAAAGTCCACCAGAGCCATGGGG
 CTGGCCCTTGCTCGGCATGTGCTGACCCTGGGGAAGAACC CGCACCTGGCACTGTCAAGGATGAGCCAG
 CGCTACGGGGACGTCCTGCAGATCCGCATTGGCTCCACGCCCGTCTGGTGTGAGCCGCTGGACACCA
 TCCGGCAGGCCCTGGTGCAGGCGGACGATTCAAGGGCCGGCCTGACCTCTACACCTCCACCCTCAT
 CACTGATGGCCAGAGCTTACCTTCAGCACAGACTCTGGACCGGTGTGGGCTGCCCGCCGGCGCCTGGCC
 CAGAATGCCCTCAACACCTTCTCCATCGCCTCTGACCCAGCTTCTCATCTCTCTGCTACCTGGAGGAGC
 ATGTGAGCAAGGAGGCTAAGGCCCTGATCAGCAGGTTGCAGGAGCTGATGGCAGGGCCTGGGCACTTCGA
 CCCTTACAATCAGGTGGTGGTGTGAGTGGCCAACGTCATTGGTGCATGTGCTTCGGACAGCACTCCCT
 GAGAGTAGCGATGAGATGCTCAGCCTCGTGAAGAACACTATGAGTTCGTGGAGACTGCCTCCTCCGGGA
 ACCCCCTGGACTTCTTCCCCATCTTCGCTACCTGCCTAACCCCTGCCCTGCAGAGGTTCAAGGCCTTCAA
 CCAGAGGTTCTGTGTTCTGCAGAAAACAGTCCAGGAGCACTATCAGGACTTTGACAAGAACAGTGTG
 CGGGACATCACGGGTGCCCTGTTCAAGCACAGCAAGAAGGGGCCTAGAGCCAGCGGCAACCTCATCCAC
 AGGAGAAGATTGTCAACCTTGTCAATGACATCTTTGGAGCAGGATTTGACACAGTACCACAGCCATCTC
 CTGGAGCCTCATGACCTTGTGACCAAGCCTGAGATACAGAGGAAGATCCAGAAGGAGCTGGACACTGTG
 ATTGGCAGGGAGCGCGGCCCGGCTCTCTGACAGACCCAGCTGCCCTACTTGGAGGCCCTCATCCTGG
 AGACCTCCGACACTCCTCTTCTTGCCTTACCATCCCCACAGCACAAACAAGGGACACAACAGCTGAA
 TGCTTCTACATCCCCAAGAAATGCTGTGCTTCTGTAACCAGTGGCAGGTCAACCATGACCCAGAGCTG
 TGGGAGGACCCCTCTGAGTTCGGCCTGAGCGGTTCTCACCGCCGATGGCACTGCCATTAAACAAGCCCT
 TGAGTGAGAAGATGATGCTGTTTGGCATGGGAAGCGCCGGTGTATCGGGGAAGTCTGGCCAAGTGGGA
 GATCTTCTCTTCTGGCCATCTGCTACAGCAACTGGAGTTCAGCGTCCCGCCGGGCGTAAAAGTCGAC
 CTGACCCCATCTACGGGCTGACCATGAAGCACGCCCGCTGTGAACATGTCCAGGCGCGGCTGCGCTTCT
 CCATCAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC221636 representing NM_000761
 Red=Cloning site Green=Tags(s)

MALSQSVPFSAATELLASAI FCLVFWLKL RPRVPKGLKSPPEPWG WPLLGHVLT LGKNPHLALSRMSQ
 RYGDVLQIRIGSTPVLVLSRLDIRQALVRQGDDFKGRPDLYTSTLITDQSLTFSTDSGPVWAARRRLA
 QNALNTFSIASDPASSSSCYLEEHVSKEAKALISRLQELMAGPGHFD PYNQVVSVANVIGAMCFGQHFP
 ESSDEMLSLVKN THEFVETASSGNPLDFPILRYLPNPALQRFKAFNRFLWFLQKTVQEHYQDFDKNSV
 RDITGALFKHSKKGPRASGNLIPQEKIVNLVNDIFGAGFDVTTAISWSL MYLVTKPEIQRKIQKELDTV
 IGRERRPRLSDRPQLPYLEAFILETFRHSSFLPFTIPHSTTRDTTLNGFYIPKKCCVFVNQWQVNHDP
 WEDPSEFRPERFLTADGTAINKPLSEKMMFLGMGRRCIGEV LAKWEIFLFLAILLQQLEFSVPPGVKVD
 LTP IYGLTMKHARCEHVQARLRF SIN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6825_e04.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_000761

ORF Size: 1548 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_000761.3](#), [NP_000752.2](#)

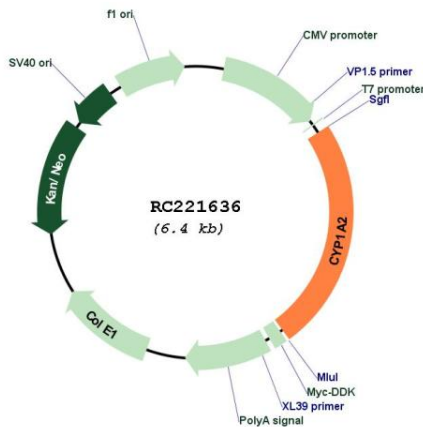
RefSeq Size: 3127 bp

RefSeq ORF: 1551 bp

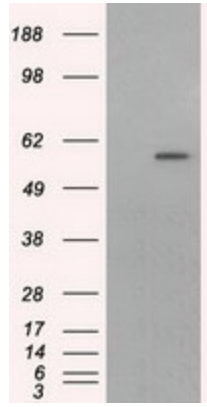
Locus ID: 1544

UniProt ID:	<u>P05177</u>
Cytogenetics:	15q24.1
Domains:	p450
Protein Families:	Druggable Genome, P450, Transmembrane
Protein Pathways:	Caffeine metabolism, Drug metabolism - cytochrome P450, Linoleic acid metabolism, Metabolic pathways, Metabolism of xenobiotics by cytochrome P450, Retinol metabolism, Tryptophan metabolism
MW:	58.2 kDa
Gene Summary:	This gene 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. The protein encoded by this gene localizes to the endoplasmic reticulum and its expression is induced by some polycyclic aromatic hydrocarbons (PAHs), some of which are found in cigarette smoke. The enzyme's endogenous substrate is unknown; however, it is able to metabolize some PAHs to carcinogenic intermediates. Other xenobiotic substrates for this enzyme include caffeine, aflatoxin B1, and acetaminophen. The transcript from this gene contains four Alu sequences flanked by direct repeats in the 3' untranslated region. [provided by RefSeq, Jul 2008]

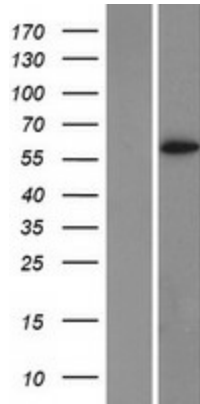
Product images:



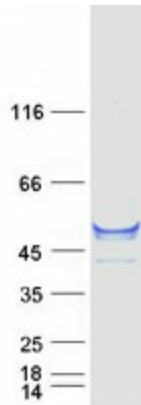
Circular map for RC221636



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CYP1A2 (Cat# RC221636, 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-CYP1A2(Cat# [TA501155]). Positive lysates [LY424529] (100ug) and [LC424529] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY424529]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221636 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYP1A2 protein (Cat# [TP321636]). The protein was produced from HEK293T cells transfected with CYP1A2 cDNA clone (Cat# RC221636) using MegaTran 2.0 (Cat# [TT210002]).