

Product datasheet for **RC216416**

CYP21A2 (NM_000500) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CYP21A2 (NM_000500) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CYP21A2
Synonyms:	CA21H; CAH1; CPS1; CYP21; CYP21B; P450c21B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC216416 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGCTGCTCCTGGCCTGCTGCTGCTGCTGCCCTGCTGGCTGGCGCCCGCTGCTGTGGAAGTGGTGA
 AGCTCCAGAGCCTCCACCTCCCGCTCTTGCCCGGGCTTCTTGACTTGTGACGCCCGACCTCCCAAT
 CTATCTGCTTGGCCTGACTCAGAAATTCGGGCCATCTACAGGCTCCACCTTGGGCTGCAAGATGTGGT
 GTGCTGAACTCCAAGAGGACATTGAGGAAGCCATGGTCAAAAAGTGGGCAGACTTTGCTGGCAGACCTG
 AGCCACTTACCTACAAGCTGGTGTCTAGGAACTACCCGGACCTGTCTTGGGAGACTACTCCCTGCTCTG
 GAAAGCCACAAGAAGCTCACCCGCTCAGCCCTGCTGCTGGGCATCCGTGACTCCATGGAGCCAGTGGT
 GAGCAGCTGACCCAGGAGTTCTGTGAGCGCATGAGAGCCAGCCCGCACCCCTGTGGCCATTGAGGAGG
 AATTCTCTCTCCTCACCTGCAGCATCATCTGTTACCTCACCTTCGGAGACAAGATCAAGGACGACA
 AATGCCTGCCTATTACAAATGTATCCAGGAGGTGTTAAAAACCTGGAGCCACTGGTCCATCCAAATTGTG
 GACGTGATTCCTTTCTCAGTTCTTCCCAATCCAGGTCTCCGGAGGCTGAAGCAGGCCATAGAGAAGA
 GGGATCACATCGTGGAGATGCAGCTGAGGCAGCACAAGGAGAGCCTCGTGGCAGGCCAGTGGAGGGACAT
 GATGGACTACATGCTCCAAGGGTGGCGCAGCCGAGCATGGAAGAGGGCTCTGGACAGCTCCTGGAAGGG
 CACGTGCACATGGCTGCAGTGGACCTCCTGATCGGTGGCACTGAGACCACAGCAAACACCCTCTCCTGGG
 CCGTGGTTTTTTTTGCTTACCACCCTGAGATTACGACGACTGCAGGAGGAGCTAGACCACGAAGTGGG
 CCCTGGTGCTCCAGCTCCCGGGTCCCCTACAAGGACCGTGCACGGCTGCCCTTGCTCAATGCCACCATC
 GCCGAGGTGCTGCGCCTCGGCCCGTGTGCCCTTAGCCTTGCACCACCGCACACAGGCCAGCCTGGATGAG
 GGCTCTGGGAGAGGCCACATGAGTTCTGGCCTGATCGCTTCTGGAGCCAGGCAAGAAGTCCAGAGCTCTG
 GCCTTCGGCTGCGGTGCCGCGTGTGCCTGGGCGAGCCGCTGGCGCGCCTGGAGCTTCTGTTGCTGTA
 CCCGACTGCTGCAGGCCTTACGCTGCTGCCCTCCGGGGACGCCCTGCCCTCCCTGCAGCCCTGCCCA
 CTGCAAGTGTATCCTCAAGATGCAGCCTTCCAAAGTGGCGCTGCAGCCCCGGGGATGGGGGCCACAGC
 CCGGGCCAGAGCCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC216416 protein sequence
 Red=Cloning site Green=Tags(s)

MLLLGLLLLLPLLAGARLLWNWKLQSLHLPLAPGFLHLLQPDLPYLLGLTQKFGPIYRLHLGLQDVV
 VLNSKRTIEEAMVKKWADFAGRPEPLTYKLVSRNYPDLSDYSLWKAHKKLTRSALLGIRDSMEPVV
 EQLTQEFCEMRMQPGTPVAIEEEFSLTCSIICYLTFGDKIKDDNLMPAYYKCIQEVLTWWSHWSIQIV
 DIVPFLRFPPNGLRRLKQAIKRDHIVEMQLRQHKESLVAGQWRDMDYMLQGVAVQPSMEEGSGQLLEG
 HVHMAAVDLLIGGTETTANTLSWAVVFLHHPETIQQRLQEELDHELGPASSSRVYPKDRARLPLLNATI
 AEVRLRLPVVPLALPHRTTRPSSISGYDIEPGTVIIPNLQGAHLDVWERPHEFWPDRFLEPGKNSRAL
 AFGCGARVCLGEPLARLELFVVLTRLLQAFLLPSGDALPSLQPLPHCSVILKMQPFQVRLQPRGMGAHS
 PGQSQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

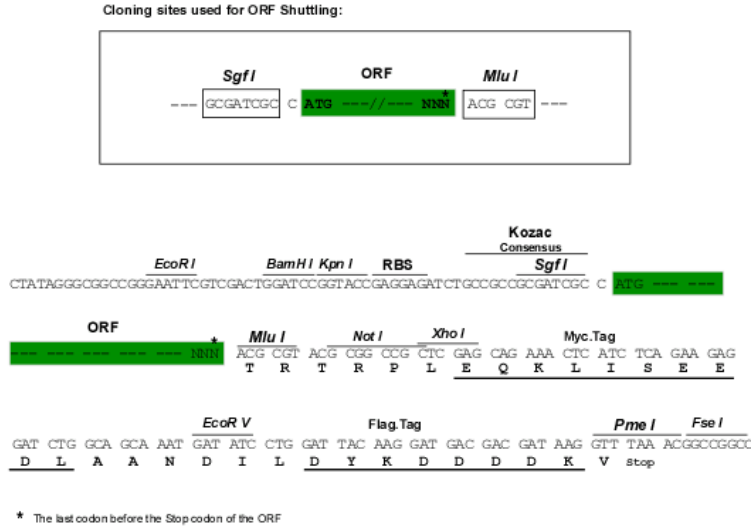
Chromatograms:

https://cdn.origene.com/chromatograms/mk6441_a06.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:

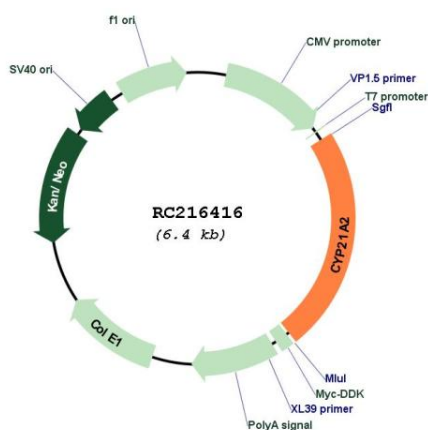


- ACCN: NM_000500
- ORF Size: 1485 bp
- OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with 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_000500.9](#)
- RefSeq Size: 2131 bp
- RefSeq ORF: 1488 bp
- Locus ID: 1589
- UniProt ID: [P08686](#)
- Cytogenetics: 6p21.33

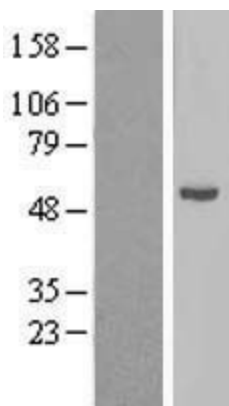
Domains: p450
Protein Families: Druggable Genome, P450
Protein Pathways: C21-Steroid hormone metabolism, Metabolic pathways
MW: 56 kDa

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. This protein localizes to the endoplasmic reticulum and hydroxylates steroids at the 21 position. Its activity is required for the synthesis of steroid hormones including cortisol and aldosterone. Mutations in this gene cause congenital adrenal hyperplasia. A related pseudogene is located near this gene; gene conversion events involving the functional gene and the pseudogene are thought to account for many cases of steroid 21-hydroxylase deficiency. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

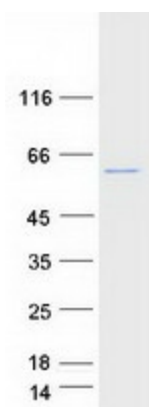
Product images:



Circular map for RC216416



Western blot validation of overexpression lysate (Cat# [LY424678]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC216416 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYP21A2 protein (Cat# [TP316416]). The protein was produced from HEK293T cells transfected with CYP21A2 cDNA clone (Cat# RC216416) using MegaTran 2.0 (Cat# [TT210002]).