

## Product datasheet for **RC222953**

### **CYP27A1 (NM\_000784) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CYP27A1 (NM_000784) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CYP27A1
Synonyms:	CP27; CTX; CYP27
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC222953 representing NM\_000784  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCTGCGCTGGGCTGCGCGAGGCTGAGGTGGGCGCTGCGAGGGGCCGGCCGTGGCCTCTGCCCCACG  
 GGGCCAGAGCCAAGGCCGATCCCTGCCGCCCTCCCCTCGGACAAGGCCACCGAGCTCCCGAGCCGG  
 GCCTGGTGTCCGGCGCGGCAACGGAGCTTAGAGGAGATTCCACGTCTAGGACAGCTGCGCTTCTCTTT  
 CAGCTGTTCTGTTCAAGGCTATGCCCTGCAACTGCACCACTTACAGGTGCTTTACAAGGCCAAGTACGGTC  
 CAATGTGGATGTCCTACTTAGGGCTCAGATGCACGTGAACCTGGCCAGTGCCCGCTCTTGAGCAAGT  
 GATGCGGCAAGAGGGCAAGTACCCAGTACGGAACGACATGGAGCTATGGAAGGAGCACCGGGACCAGCAC  
 GACCTGACCTATGGGCCGTTACCACGGAAGGACACCCTGGTACCAGCTGCGCCAGGCTCTGAACCAGC  
 GGTGCTGAAGCCAGCGAAGCAGCGCTCTATACGGATGCTTCAATGAGGTGATTGATGACTTTATGAC  
 TCGACTGGACCAGCTGCGGGCAGAGAGTCTTCGGGAACCAGGTGTCGGACATGGTTCAACTCTTCTAC  
 TACTTTGCCTTGAAGCTATTTGCTACATCCTGTTTCGAGAAACGATTGGCTGCCTGCAGCGATCCATCC  
 CCGAGGACACCGTGACCTTCGTCAGATCCATCGGGTAAATGTTCCAGAACTCACTCTATGCCACCTTCT  
 CCCAAGTGGACTCGCCCGTGCTGCTTTCTGGAAGCGATACCTGGATGGTTGGAATGCCATCTTTTCC  
 TTTGGGAAGAAGCTGATTGATGAGAAGCTCGAAGATATGGAGGCCAACTGCAGGCAGCAGGGCCAGATG  
 GCATCCAGGTGTCTGGCTACCTGCACCTTCTACTGGCCAGTGGACAGCTCAGTCCCGGGAGGCCATGGG  
 CAGCTGCTGAGCTGCTCATGGCTGGAGTGGACACGACATCCAACACGCTGACATGGGCCCTGTACCAC  
 CTCTCAAAGGACCCTGAGATCCAGGAGGCTTGCACGAGGAAGTGGTGGTGTGGTGCCAGCCGGCAAG  
 TGCCCCAGCACAAGGACTTTGCCACATGCCGTTGCTCAAAGCTGTGCTTAAGGAGACTGCGTCTCTA  
 CCCTGTGGTCCCCACAACTCCCGGATCATAGAAAAGGAAATGAAGTTGATGGCTTCTCTTCCCCAAG  
 AACACCCAGTTTGTGTTCTGCCACTATGTGGTGTCCCGGACCCCACTGCCTTCTCTGAGCCTGAAAGCT  
 TCCAGCCCCACCGCTGGCTGAGAAAACAGCCAGCCTGCTACCCCCAGGATCCAGCACCCATTTGGCTCTGT  
 GCCCTTTGGCTATGGGGTCCGGGCTGCTGGGCCGAGGATTGCAGAGCTGGAGATGCAGCTACTCCTC  
 GCAAGGCTGATCCAGAAGTACAAGGTGGTCTGGCCCCGAGACGGGGAGTTGAAGAGTGTGGCCCGCA  
 TTGCTCTGGTTCCCAATAAGAAAGTGGGCTGCAGTTCCTGCAGAGACAGTGC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC222953 representing NM\_000784  
 Red=Cloning site Green=Tags(s)

MAALGCARLRWALRGAGRGLCPHGARAKAAIPAALPSDKATGAPGAGPGVRRRQRSLLEIPRLGQLRFFF  
 QLFVQGYALQLHQLQVLYKAKYGPMWMSYLGPMHVNLASAPLLEQVMRQEGKYPVRNDMELWKEHRDQH  
 DLTYPFTTEGHHWYQLRQALNQRLKPAEALYTDAFNEVIDDFMTRLDQLRAESASGNQVSDMVQLFY  
 YFALEAICYILFEKRIGCLQRSIPEDTVTFVRSIGLMFQNSLYATFLPKWTRPVLFPWKRYLDGWNAI  
 FSGKLLIDEKLEDEAQLQAAGPDGIQVSGYLHFLLASGQLSPREAMGSLPELLMAGVDTTSNL  
 TWALYHL SKDPEIQEALHEEVVGVVAGVQVQHKDFAHMPLLKAVLKETLRLYPVVPTNSRIEKEIEVDGFL  
 FPKNTQFVFCYVVS RDPTAFSEPEFQPHRWLRNSQPATPRIQHPFGSVPFYGVRACLGRRIAELEMQLLL  
 ARLIQKYKVV LAPETGELKSVARIVLVPNKVGLQFLQRQC

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6046\\_b01.zip](https://cdn.origene.com/chromatograms/mk6046_b01.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_000784

**ORF Size:** 1593 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\\_000784.4](#)

**RefSeq Size:** 2059 bp

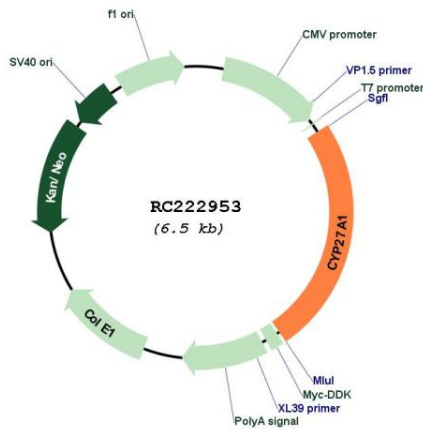
**RefSeq ORF:** 1596 bp

**Locus ID:** 1593

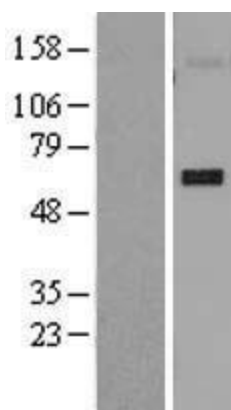
**UniProt ID:** [Q02318](#)  
**Cytogenetics:** 2q35  
**Domains:** p450  
**Protein Families:** Druggable Genome, P450  
**Protein Pathways:** Metabolic pathways, PPAR signaling pathway, Primary bile acid biosynthesis  
**MW:** 60.26 kDa

**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 mitochondrial protein oxidizes cholesterol intermediates as part of the bile synthesis pathway. Since the conversion of cholesterol to bile acids is the major route for removing cholesterol from the body, this protein is important for overall cholesterol homeostasis. Mutations in this gene cause cerebrotendinous xanthomatosis, a rare autosomal recessive lipid storage disease. [provided by RefSeq, Jul 2008]

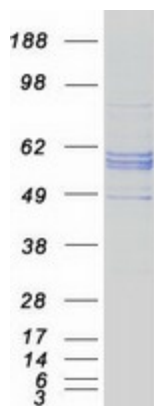
### Product images:



Circular map for RC222953



Western blot validation of overexpression lysate (Cat# [LY400268]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC222953 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYP27A1 protein (Cat# [TP322953]). The protein was produced from HEK293T cells transfected with CYP27A1 cDNA clone (Cat# RC222953) using MegaTran 2.0 (Cat# [TT210002]).