

## Product datasheet for **RG222840**

### **CYP27B1 (NM\_000785) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CYP27B1 (NM_000785) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CYP27B1
Synonyms:	CP2B; CYP1; CYP1alpha; CYP27B; P450c1; PDDR; VDD1; VDDR; VDDRI; VDR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG222840 representing NM\_000785  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGACCCAGACCTCAAGTACGCTCCAGAGTGTTCATCGCGTCCGCTGGGCGCCGAGTTGGGCGCT  
 CCTAGGCTACCGAGAGTACCACTCAGCAGCCGGAGCTTGGCAGACATCCCAGGCCCTCTACGCCAG  
 CTTTCTGGCCGAACCTTTCTGCAAGGGGGGCTGTGAGGCTACACGAGCTGCAGGTGCAGGGCGCCGCG  
 CACTTCGGGCCGGTGTGGCTAGCCAGCTTTGGGACAGTGCACACCGTGTACGTGGCTGCCCTGCACTCG  
 TCGAGGAGCTGTGCGACAGGAGGGACCCGGCCGAGCGCTGCAGTTCTCGCCCTGGACGGAGCACCG  
 CCGCTGCCCCAGCGGGCTTGGGACTGCTCACTGCGGAAGGCGAAGAATGGCAAAGGCTCCGCAGTCTC  
 CTGGCCCCGCTCCTCCGGCCTCAAGCGGCCGCCGCTACGCCGAACCTGAACAACGTAGTCTGCG  
 ACCTTGTGCGGCGTCTGAGGCGCCAGCGGGACGTGGCACGGGGCGCCGCCCTGGTTCGGGACGTGGC  
 GGGGAATTTACAAGTTCGGACTGGAAGGCATCGCCCGGTTCTGCTCGGCTCGCGCTTGGGCTGCCTG  
 GAGGCTCAAGTGCCACCCGACACGGAGACTTCACTCCGCGCTGTGGGCTCGGTGTTGTGTCCACGCTGT  
 TGACCATGGCGATGCCCACTGGCTGCGCCACCTTGTGCCTGGGCCCTGGGGCCGCTCTGCCGAGACTG  
 GGACCAGATGTTTGCATTTGCTCAGAGGCACGTGGAGCGCGAGAGGCAGAGGCAGCCATGAGGAACGGA  
 GGACAGCCCGAGAAGGACCTGGAGTCTGGGGCGCACCTGACCCACTTCTGTTCCGGGAAGAGTTGCCTG  
 CCCAGTCCATCCTGGAAATGTGACAGAGTTGCTATTGGCGGGAGTGGACACGGTGTCCAACACGCTCTC  
 TTGGGCTCTGTATGAGCTCTCCCGCACCCGAAGTCCAGACAGCACTCCACTCAGAGATCACAGCTGCC  
 CTGAGCCCTGGCTCCAGTGCCTACCCCTCAGCCACTGTTCTGTCCAGCTGCCCTGCTGAAGCGGGTGG  
 TCAAGGAAGTCTAAGACTGTACCTGTGGTACCTGGAATTTCTGTTGCCAGACAAAGACATTCATGT  
 GGGTGACTATATTATCCCAAAAATACGCTGGTCACTCTGTGCTACTATGCCACTTCAAGGGACCCCTGCC  
 CAGTTCACAGAGCAAATTTCTTTTCGTCACGCTCGCTGGCTGGGGAGGGTCCCACCCCCACCCATTTG  
 CATCTCTTCCCTTTGGCTTTGGCAAGCGCAGCTGTATGGGGAGACGCTGGCAGAGCTTGAATTGCAAAT  
 GGCTTTGGCCAGATCCTAACACATTTTGGAGTGCAGCCTGAGCCAGGTGCGGCCCCAGTTAGACCCAAG  
 ACCCGGACTGTCTGGTACTGAAAGGAGCATCAACCTACAGTTTTTGGACAGA

**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA**

**Protein Sequence:**

>RG222840 representing NM\_000785  
 Red=Cloning site Green=Tags(s)

MTQTLKYASRVFHRVRWAPELGASLGYREYHSARRSLADIPGPSTPSFLAELFCKGGLSRLHELQVQGA  
 HFGPVWLASFQVTVRYVAAPALVEELLRQEGPRPERCSFSPWTEHRRRCRQRACGLLTAEGEEWQRLRSL  
 LAPLLLRPQAAARYAGTLNNVCDLVRRLRRQRGRGTGPPALVRDVAGEFYKFGLEGIAAVLLGSRLGCL  
 EAQVPPDTETFIRAVGSVVFVSTLLTMAMPHWLRHLVPGPWGRLCRDWDQMF AFAQRHVERREAEAAAMRNG  
 GQPEKDLES GAHLTHFLFREELPAQSILGNVTELLL AGVDTVSNTLSWALYELSRHPEVQTALHSEITAA  
 LSPGSSAYPSATVLSQLPLLKAVVKEVLRLYPVVPGNSRVPDKDIHVGDYIIPKNTLVTLCHYATSRDPA  
 QFPEPNSFRPARWL GEGTPHPFASLPFGFGKRSCMGRRRLAELELQMALAQILTHEVQPEPGAAPVRPK  
 TRTVLVPERSINLQFLDR

**TRTRPLE - GFP Tag - V**

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_000785

**ORF Size:** 1524 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\\_000785.4](#)

**RefSeq Size:** 2503 bp

**RefSeq ORF:** 1527 bp

**Locus ID:** 1594

**UniProt ID:** [O15528](#)

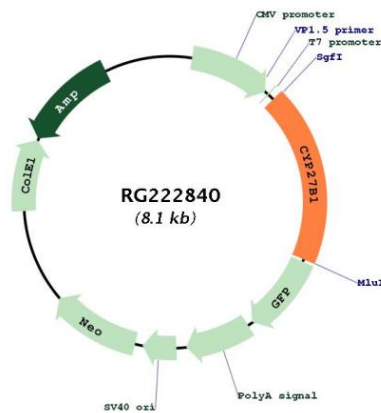
**Cytogenetics:** 12q14.1

**Protein Families:** Druggable Genome, P450

**Protein Pathways:** Metabolic pathways, Steroid biosynthesis

**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 inner mitochondrial membrane where it hydroxylates 25-hydroxyvitamin D3 at the 1alpha position. This reaction synthesizes 1alpha,25-dihydroxyvitamin D3, the active form of vitamin D3, which binds to the vitamin D receptor and regulates calcium metabolism. Thus this enzyme regulates the level of biologically active vitamin D and plays an important role in calcium homeostasis. Mutations in this gene can result in vitamin D-dependent rickets type I. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG222840