

## Product datasheet for **RG228881**

### **CYP51A1 (NM\_001146152) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CYP51A1 (NM_001146152) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CYP51A1
Synonyms:	CP51; CYP51; CYPL1; LDM; P450-14DM; P450L1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG228881 representing NM\_001146152  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGGCGCGGCTGGGATGCTGCTGCTGGGCTTGTGCAGCGGGTGGTTCGGTCTGGCCAGCGCA  
 TGGAGAAGGTGACAGGCGCAACCTCTTGTCCATGCTGCTGATCGCCTGCGCCTTACCCTCAGCTGGT  
 CTACCTGATCCGTCTGGCCGCGGCCACCTGGTCCAGCTGCCCGAGGGGTGAAAAGTCCCTCCTACATT  
 TTCTCCCAATTCATTCTTGGGCATGCCATAGCATTGGGAAAAGTCCAATTGAATTTCTAGAAAATG  
 CATATGAGAAGTATGGACCTGTATTTAGTTTTACCATGGTAGGCAAGACATTTACTTACCTTCTGGGGAG  
 TGATGCTGCTGACTGCTTTTTAATAGTAAAAATGAAGACCTGAATGCAGAAGATGTCTACAGTCGCCTG  
 ACAACACCTGTGTTTGGGAAGGGAGTTGCATACGATGTGCCTAATCCAGTTTTCTGGAGCAGAAGAAAA  
 TGTTAAAAAGTGGCCTTAACATAGCCACTTTAAACAGCATGTTTCTATAATTGAAAAGAAACAAAGGA  
 ATACTTTGAGAGTTGGGGAGAAAGTGGAGAAAAAATGTGTTTGAAGCTTTTCTGAGCTCATAATTTTA  
 ACAGCTAGCCATTGTTTGCATGGAAGGAAATCAGAAAGTCAACTCAATGAAAAGGTAGCAGACTGTATG  
 CAGATTTGGATGGAGTTTCAGCCATGCAGCCTGGCTCTTACCAGTTGGCTGCCTTTGCCTAGTTTCAG  
 ACGCAGGGACAGAGCTCATCGGGAATCAAGGATATTTTCTATAAGGCAATCCAGAAACGCAGACAGTCT  
 CAAGAAAAAATTGATGACATTCTCAAACCTTACTAGATGCTACATACAAGGATGGGCGTCTTTGACTG  
 ATGATGAAGTAGCAGGGATGCTTATTGGATTACTCTTGGCAGGGCAGCATACATCCTCAACTACTAGTGC  
 TTGGATGGGCTTCTTTTGGCCAGAGACAAAACACTTCAAAAAAATGTTATTTAGAACAGAAAACAGTC  
 TGTGGAGAGAATCGCTCCTTTAACTTATGACCAGCTCAAGGATCTAAATTTACTTGATCGCTGTATAA  
 AAGAAACATTAAGACTTAGACCTCTGTAATGATCATGATGAGAATGGCCAGAACTCCTCAGACTGTGCC  
 AGGGTATACCATTCTCCAGGACATCAGGTGTGTGTTTCTCCACTGTCAATCAAAGACTTAAAGACTCA  
 TGGGTAGAACGCCTGGACTTTAATCCTGATCGCTACTTACAGGATAACCCAGCATCAGGGGAAAAGTTTG  
 CCTATGTGCCATTTGGAGCTGGGCGTCATCGTTGTATTGGGAAAATTTGCCTATGTTCAAATTAAGAC  
 AATTTGGTCCACTATGCTTCGTTTATATGAATTTGATCTCATTGATGGATACTTTCCCACTGTGAATTAT  
 ACAACTATGATTCACACCCTGAAAACCCAGTTATCCGTTACAAACGAAGATCAAAA

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG228881 representing NM\_001146152  
 Red=Cloning site Green=Tags(s)

MAAAGMLLLGLLQAGGSVLQAMEKVTGGNLLSMLLIACFTLSLVYLIIRLAAGHLVQLPAGVKSPYYI  
 FSPVIFLGHAIAFGKSPIEFLENAYEKYGPVFSFTMVGKTFYLLGSDAAALLFNSKNEDLNAEDVYSRL  
 TTPVFGKGVAYDVPNPVFLEQKKMLKSGLNIAHFQKQHSIIIEKETKEYFESWGESGEKNVFEALSEL IIL  
 TASHCLHGKEIRSQLEKVAQLYADLDGGFSHAAWLLPGWLPLPSFRRRDRAHREIKDIFYKAIQRRQS  
 QEKIDDLQTLLDATYKDRPLTDDEVAGMLIGLLLQAGHTSSTTSAWMGFFLARDKTLQKKCYLEQKTV  
 CGENLPPLTYDQLKDLNLLDRCIKETLRLRPPVMIMMRMARTPQTVAGYIIPPGHQVCVSPTVNQRLKDS  
 WVERLDFNPDRYLQDNPASGEKFAYVPFGAGRHRICIGENFAYVQIKTIWSTMLRLYFDLIDGYFPVNY  
 TTMIHTPENPVIRYKRRSK

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

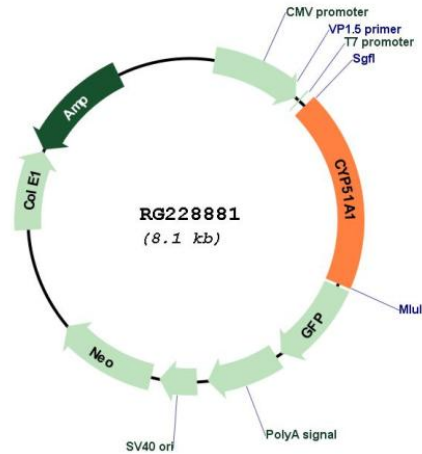
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



## Plasmid Map:



ACCN: NM\_001146152

ORF Size: 1212 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_001146152.1</a></u> , <u><a href="#">NP_001139624.1</a></u>
<b>RefSeq Size:</b>	2934 bp
<b>RefSeq ORF:</b>	1215 bp
<b>Locus ID:</b>	1595
<b>UniProt ID:</b>	<u><a href="#">Q16850</a></u>
<b>Cytogenetics:</b>	7q21.2
<b>Protein Families:</b>	Druggable Genome, P450, Transmembrane
<b>Protein Pathways:</b>	Metabolic pathways, Steroid biosynthesis
<b>Gene Summary:</b>	<p>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 endoplasmic reticulum protein participates in the synthesis of cholesterol by catalyzing the removal of the 14alpha-methyl group from lanosterol. Homologous genes are found in all three eukaryotic phyla, fungi, plants, and animals, suggesting that this is one of the oldest cytochrome P450 genes. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Mar 2009]</p>