

## Product datasheet for RC229902

### CYB5R3 (NM\_001171660) Human Tagged ORF Clone

#### Product data:

|                           |  |
|---------------------------|--|
| Product Type:             | Expression Plasmids  |
| Product Name:             | CYB5R3 (NM_001171660) Human Tagged ORF Clone                                   |
| Tag:                      | Myc-DDK  |
| Symbol:                   | CYB5R3   |
| Synonyms:                 | B5R; DIA1  |
| Mammalian Cell Selection: | Neomycin   |
| Vector:                   | pCMV6-Entry (PS100001)   |
| E. coli Selection:        | Kanamycin (25 ug/mL)   |
| ORF Nucleotide Sequence:  | >RC229902 representing NM_001171660<br>Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGAATAGGAGTTTGCTGGTTGGATGCATGCAGAGCAAGGACATTTGGGGCAGAGAGGAGAGCATATGCG  
AACGCCTGAAGCAAGATGGGCTTGATGTTGAAAGAGCAGAGAGCTGGGAGTTGGGCCATATGGTCTCTT  
CCCAGTCTGGTTCCTGTACAGTCTGCTCATGAAGCTGTTCCAGCGCTCCACGCCAGCCATCACCTCGAG  
AGCCCGGACATCAAGTACCCGCTGCGGCTCATCGACCGGGAGATCATCAGCCATGACACCCGGCGCTTCC  
GCTTTGCCCTGCCGTACCCAGCACATCTGGGCTCCCTGTGCGCCAGCACATCTACCTCTCGGCTCG  
AATTGATGGAAACCTGGTCGTCCGGCCCTATACCCCATCTCCAGCGATGATGACAAGGGCTTCGTGGAC  
CTGGTCATCAAGTTTACTTCAAGGACACCCATCCCAAGTTTCCCGCTGGAGGGAAGATGTCTCAGTACC  
TGGAGAGCATGCAGATTGGAGACACCATTTGAGTTCGGGGCCCCAGTGGGCTGCTGGTCTACCAGGGCAA  
AGGGAAGTTCCGCATCCGACCTGACAAAAAGTCCAACCTATCATCAGGACAGTGAAGTCTGTGGGCATG  
ATCGCGGGAGGGACAGGCATCACCCGATGCTGCAGGTGATCCGCGCCATCATGAAGGACCTGATGACC  
ACACTGTGTGCCACCTGCTCTTTGCCAACCAGACCCGAGAAGGACATCCTGCTGCGACCTGAGCTGGAGGA  
ACTCAGGAACAAACATTCTGCACGCTTCAAGCTCTGGTACACGCTGGACAGAGCCCCTGAAGCCTGGGAC  
TACGGCCAGGGCTTCGTGAATGAGGAGATGATCCGGGACCACCTTCCACCCAGAGGAGGAGCCGCTGG  
TGCTGATGTGTGGCCCCCACCATGATCCAGTACGCTGCCTTCCCAACCTGGACCAGTGGGCCACCC  
CACGGAGCGCTGCTTCGCTTTC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC229902 representing NM\_001171660  
Red=Cloning site Green=Tags(s)

MNRSLLVGCMQSKDIWGREESICERLKQDGLDVERAESWELGHMVLFPVWFLYSLLMKLFQRSTPAITLE  
 SPDIKYPLRLIDREIISHDTRRRFRFALPSPQHILGLPVGQHIYL SARIDGNLVVRPYTPISDDDKGFVD  
 LVIKVVYFKDTHPKFPAGGKMSQYLESMQIGDTIEFRGSPGLLVYQKGKFAIRPDKKSNPIIRTVKSVMG  
 IAGGTGITPMLQVIRAIMKDPDDHTVCHLLFANQTEKDILLRPELEELRNKHSARFKLWYTLDRAPEAWD  
 YQGQFVNEEMIRDHLPPPEEELVLMCGPPPMIQYAQLPNLDHVGHPTEFCFV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk8052\\_h05.zip](https://cdn.origene.com/chromatograms/mk8052_h05.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001171660

**ORF Size:** 1002 bp

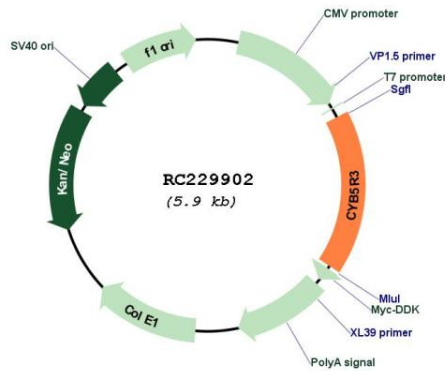
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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.

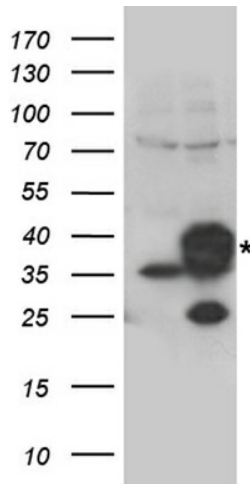
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

|                               |  |
|-------------------------------|--|
| <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>                | <a href="#">NM_001171660.1</a> , <a href="#">NP_001165131.1</a>  |
| <b>RefSeq ORF:</b>            | 1005 bp  |
| <b>Locus ID:</b>              | 1727   |
| <b>UniProt ID:</b>            | <a href="#">P00387</a>   |
| <b>Cytogenetics:</b>          | 22q13.2  |
| <b>Protein Families:</b>      | Druggable Genome   |
| <b>Protein Pathways:</b>      | Amino sugar and nucleotide sugar metabolism  |
| <b>MW:</b>                    | 38.7 kDa   |
| <b>Gene Summary:</b>          | <p>This gene encodes cytochrome b5 reductase, which includes a membrane-bound form in somatic cells (anchored in the endoplasmic reticulum, mitochondrial and other membranes) and a soluble form in erythrocytes. The membrane-bound form exists mainly on the cytoplasmic side of the endoplasmic reticulum and functions in desaturation and elongation of fatty acids, in cholesterol biosynthesis, and in drug metabolism. The erythrocyte form is located in a soluble fraction of circulating erythrocytes and is involved in methemoglobin reduction. The membrane-bound form has both membrane-binding and catalytic domains, while the soluble form has only the catalytic domain. Alternate splicing results in multiple transcript variants. Mutations in this gene cause methemoglobinemias. [provided by RefSeq, Jan 2010]</p> |

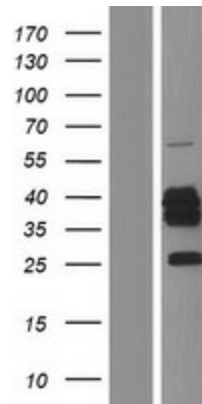
Product images:



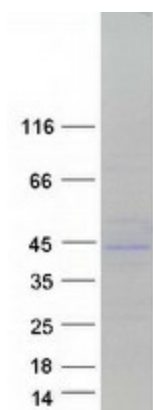
Circular map for RC229902



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CYB5R3 (Cat# RC229902, 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-CYB5R3 antibody (Cat# [TA890109]). Positive lysates [LY400140] (100ug) and [LC400140] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY432902]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC229902 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYB5R3 protein (Cat# [TP329902]). The protein was produced from HEK293T cells transfected with CYB5R3 cDNA clone (Cat# RC229902) using MegaTran 2.0 (Cat# [TT210002]).