

Product datasheet for RC201592

CYB5R3 (NM_000398) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CYB5R3 (NM_000398) 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:	>RC201592 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGGGGCCAGCTCAGCACGTTGGCCATATGGTGCTCTCCAGTCTGGTTCCTGTACAGTCTGCTCA
TGAAGCTGTTCCAGCGCTCCACGCCAGCCATCACCTCGAGAGCCCGGACATCAAGTACCCGCTGCGGCT
CATCGACCGGGAGATCATCAGCCATGACACCCGGCGCTCCGCTTTGCCCTGCCGTACCCAGCACATC
CTGGGCCCTCCCTGTCGGCCAGCACATCTACCTCTCGGCTCGAATTGATGAAACCTGGTCGTCGGCCCT
ATACACCCATCTCCAGCGATGATGACAAGGGCTTCGTGGACCTGGTCATCAAGGTTTACTTCAAGGACAC
CCATCCCAAGTTTCCCGCTGGAGGGAAGATGTCTCAGTACCTGGAGAGCATGCAGATTGGAGACACCATT
GAGTTCGGGGGCCAGTGGGCTGCTGGTCTACCAGGGCAAAGGGAAGTTCGCCATCCGACCTGACAAAA
AGTCCAACCTATCATCAGGACAGTGAAGTCTGTGGGCATGATCGCGGGAGGGACAGGCATCACCCCGAT
GCTGCAGGTGATCCGCGCCATCATGAAGGACCCTGATGACCACACTGTGTGCCACCTGCTCTTGCCAAAC
CAGACCGAGAAGGACATCCTGCTGCGACCTGAGCTGGAGGAACTCAGGAACAAACATTCTGCACGTTCA
AGCTCTGGTACACGCTGGACAGAGCCCTGAAGCCTGGGACTACGGCCAGGGCTTCGTGAATGAGGAGAT
GATCCGGGACCACCTTCCACCCAGAGGAGGACCGCTGGTGTGATGTGTGGCCCCCACCATGATC
CAGTACGCCTGCCTTCCCAACCTGGACCAGTGGGCCACCCACGGAGCGCTGCTTCGTCTTC

ACGCGTACGCGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC201592 protein sequence
Red=Cloning site Green=Tags(s)

MGAQLSTLGHMVLFPVWFLYSLLMKLFQRSTPAITLESPIKYLRLIDREIISHDTRRFRFALPSPQHI
 LGLPVGQHIYLSARIDGNLVVRPYTPISSDDDKGFVDLVIKVFYKDTHPKFPAGGKMSQYLESMQIGDTI
 EFRGPSGLLVYQKGKFAIRPDKKSNPIIRTVKSVGMIAAGGTGITPMLQVIRAIMKDPDDHTVCHLLFAN
 QTEKDILLRPELEELRNKHSARFKLWYTLDRAPEAWDYGQGFVNEEMIRDHLPPPEEEPLVLMCGPPPMI
 QYAACLPNLDHVGHPТЕРCFVF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6025_e12.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000398

ORF Size: 903 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_000398.7](#)

RefSeq Size: 2923 bp

RefSeq ORF: 906 bp

Locus ID: 1727

UniProt ID: [P00387](#)

Cytogenetics: 22q13.2

Domains: NAD_binding_1, FAD_binding_6

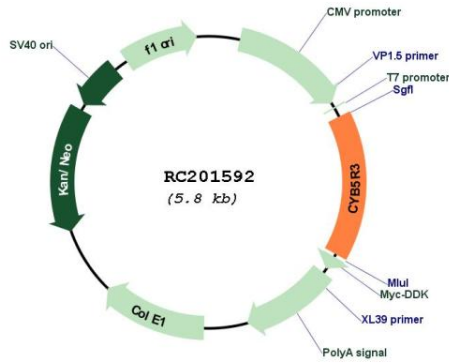
Protein Families: Druggable Genome

Protein Pathways: Amino sugar and nucleotide sugar metabolism

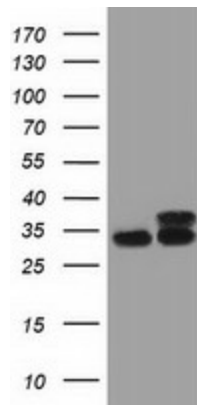
MW: 34.2 kDa

Gene Summary: 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]

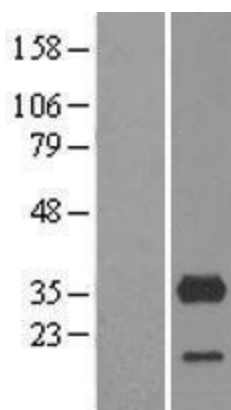
Product images:



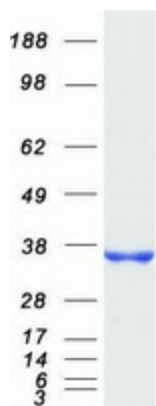
Circular map for RC201592



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CYB5R3 (Cat# RC201592, 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(Cat# [TA501353]). Positive lysates [LY400140] (100ug) and [LC400140] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400140]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201592 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CYB5R3 protein (Cat# [TP301592]). The protein was produced from HEK293T cells transfected with CYB5R3 cDNA clone (Cat# RC201592) using MegaTran 2.0 (Cat# [TT210002]).