

## Recombinant Human CYB5R3 Protein, His-tagged

**Cat. No.** CYB5R3-11067H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Product Overview</b> | Human CYB5R3 Protein, His Tag is expressed from E. coli cells. It contains AA Lys 2 - Phe 278 (Accession # P00387-2). This protein carries a polyhistidine tag at the N-terminus. Predicted N-terminus: Met                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Source</b>           | E. coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>ProteinLength</b>    | 2-278 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Description</b>      | CYB5R3 (Cytochrome B5 Reductase 3) 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. |
| <b>Form</b>             | Lyophilized from 0.22 µm filtered solution in PBS, 0.2 M Arginine, pH7.4 with trehalose as protectant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Molecular Mass</b>   | The protein has a calculated MW of 33.5 kDa. The protein migrates as 33-35 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                       |                                                                                                                                                                                                                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE).                                                                                                                                                                                                                      |
| <b>Endotoxin</b>      | Less than 1.0 EU/μg by the LAL method/rFC method.                                                                                                                                                                                                                                                                            |
| <b>Purity</b>         | >95% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                              |
| <b>Storage</b>        | This product is stable after storage at: -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution. For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. |
| <b>Reconstitution</b> | It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 μg/μL. Centrifuge the vial at 4 centigrade before opening to recover the entire contents.                                                                                                                                       |

## GENE INFORMATION

|                        |                                                                                                                                                                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | CYB5R3 cytochrome b5 reductase 3 [ Homo sapiens (human) ]                                                                                                                                                                                        |
| <b>Official Symbol</b> | CYB5R3                                                                                                                                                                                                                                           |
| <b>Synonyms</b>        | CYB5R3; cytochrome b5 reductase 3; DIA1, diaphorase (NADH) (cytochrome b 5 reductase); NADH-cytochrome b5 reductase 3; diaphorase-1; NADH-cytochrome b5 reductase 3 soluble form; NADH-cytochrome b5 reductase 3 membrane-bound form; B5R; DIA1; |
| <b>Gene ID</b>         | 1727                                                                                                                                                                                                                                             |
| <b>mRNA Refseq</b>     | NM_000398                                                                                                                                                                                                                                        |

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|----------------|-----------|
| Protein Refseq | NP_000389 |
| MIM            | 613213    |
| UniProt ID     | P00387    |

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