CYB5R3 Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	CYB5R3, Lysate
Full Product Name	Human CYB5R3 Protein Lysate
Product Gene Name	CYB5R3 lysate
Product Synonym Names	CYB5R3; B5R; DIA1
Host	Human
Form/Format	Lyophilized
Preparation and Storage	Store at -20 degree C Once reconsituted, aliquot and store any remaining material at-20 degree C to avoid repeated freeze-thaw cycles.
Molecular Weight	34 kDa (300 aa) confirmed by MALDI-TOF
OMIM	250800
3D Structure	ModBase 3D Structure for P00387
Related Product Information for CYB5R3 lysate	Human CYB5R3 Protein Lysate 20ug is provided as a Lyophilized powder. This is a Recombinant Protein Lysate produced in HEK293T cells. This protein lysate can be reconsituted using SDS Sample Buffer.
Other Notes	Small volumes of CYB5R3 lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CYB5R3 purchase	MBS8410187 is a lysate targeting CYB5R3. Also known as Human CYB5R3 Protein Lysate. Host: Human.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CYB5R3. It may not necessarily be applicable to this product.

NCBI GI #	4503327
NCBI GeneID	1727
NCBI Accession #	NP_000389
UniProt Primary Accession #	P00387
UniProt Secondary Accession #	O75675; Q8TDL8; Q8WTS8; Q9UEN4; Q9UEN5; Q9UL55; Q9UL56; B1AHF2; B7Z7L3
UniProt Related Accession #	P00387
GenBank Nucleotide #	NM_000398
NCBI Official Full Name	NADH-cytochrome b5 reductase 3 isoform 1
NCBI Official Synonym Full Names	cytochrome b5 reductase 3
NCBI Official Symbol	CYB5R3
NCBI Official Synonym Symbols	B5R; DIA1
UniProt Protein Name	NADH-cytochrome b5 reductase 3

UniProt Synonym Protein Names	Diaphorase-1
Protein Family	NADH-cytochrome b5 reductase
UniProt Gene Name	CYB5R3
UniProt Synonym Gene Names	DIA1; B5R
UniProt Entry Name	NB5R3_HUMAN
NCBI Protein Information	NADH-cytochrome b5 reductase 3
NCBI Summary for CYB5R3	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]
UniProt Comments for CYB5R3	CYB5R3: Desaturation and elongation of fatty acids, cholesterol biosynthesis, drug metabolism, and, in erythrocyte, methemoglobin reduction. Defects in CYB5R3 are the cause of methemoglobinemia CYB5R3-related (METHB-CYB5R3). A form of methemoglobinemia, a hematologic disease characterized by the presence of excessive amounts of methemoglobin in blood cells, resulting in decreased oxygen carrying capacity of the blood, cyanosis and hypoxia. There are two types of methemoglobinemia CYB5R3-related. In type 1, the defect affects the soluble form of the enzyme, is restricted to red blood cells, and causes well- tolerated methemoglobinemia. In type 2, the defect affects both the soluble and microsomal forms of the enzyme and is thus generalized, affecting red cells, leukocytes and all body tissues. Type 2 methemoglobinemia is associated with mental deficiency and other neurologic symptoms. Belongs to the flavoprotein pyridine nucleotide cytochrome reductase family. 3 isoforms of the human protein are produced by alternative promoter. Protein type: Carbohydrate Metabolism - amino sugar and nucleotide sugar; Mitochondrial; Oxidoreductase; EC 1.6.2.2 Chromosomal Location of Human Ortholog: 22q13.2 Cellular Component: mitochondrial outer membrane; endoplasmic reticulum membrane; mitochondrion; membrane; hemoglobin complex; endoplasmic reticulum; cytoplasm; mitochondrial inner membrane; lipid particle Molecular Function: FAD binding; cytochrome-b5 reductase activity; ADP binding; NAD binding; AMP binding Biological Process: vitamin metabolic process; blood circulation; L-ascorbic acid metabolic process; cholesterol biosynthetic process; water-soluble vitamin metabolic process Disease: Methemoglobinemia Due To Deficiency Of Methemoglobin Reductase
Research Articles on CYB5R3	**1.** Data suggest that cytochrome b5 (CYB5) and cytochrome b5 reductase 3 (CYB5R3) can reduce human cytoglobin (CYGB) and zebrafish cytoglobins at rates up to 250-fold higher than those reported for the known physiological substrates, hemoglobin and myoglobin; the three proteins (CYB5+CYB5R3+CYGB) appear to constitute a metabolon involved in generation of nitric oxide.
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