

Recombinant Human Glycerol-3-Phosphate Dehydrogenase 2 (Mitochondrial)

Cat. No. GPD2-1310H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	GPD2 Human Recombinant produced in E.Coli is single, a non-glycosylated, Polypeptide chain containing 558 amino acids fragment (43-600) corresponding to the GlpA domain fragment of the mature protein, having a total molecular mass of 64kDa and fused with a 4.5kDa amino-terminal hexahistidine tag. The GPD2 is purified by proprietary chromatographic techniques.
Species	Human
Source	Human
ProteinLength	43-600 a.a.
Description	GPD2 (Mitochondrial glycerol-3-phosphate dehydrogenase) is a Ca ²⁺ -sensitive, FAD-binding protein, which is located on the outer surface of the inner mitochondrial membrane. Two isoforms have been identified for mGPD: Isoform 1 is comprised of 727 a.a. residues, while isoform 2 lacks 126 a.a. residues of the N-terminus. GPD2 catalyses the oxidation of glycerol-3-phosphate to DHAP (dihydroxyacetone phosphate) with associated reduction of the enzyme-bound FAD. GPD2 is a testis-specific promoter of mitochondrial GPDH. GPD2 along with a cytosolic NAD-linked GPD forms the glycerol phosphate shuttle that uses the interconversion of G-3-P and DHAP to transfer reducing equivalents into mitochondria, which results in the reoxidation of NADH produced during glycolysis. GPD2 deficiency contributes to the impairment of glucose-stimulated insulin discharge in a number of animal models of

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non-insulin dependent diabetes mellitus. GPD2 up-regulation as a result of a highly glycolytic environment contributes to the general increase in ROS generation and may lead to the progression of prostate cancer.

Form GPD2 protein is supplied in 1x PBS and 50% glycerol.

Purity Greater than 95.0% as determined by SDS-PAGE.

Physical Appearance Sterile Filtered clear solution.

Storage Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. Please avoid freeze thaw cycles.

GENE INFORMATION

Gene Name GPD2 glycerol-3-phosphate dehydrogenase 2 (mitochondrial) [Homo sapiens]

Official Symbol GPD2

Synonyms GPD2; glycerol-3-phosphate dehydrogenase 2 (mitochondrial); GDH2; GPDM; mGPDH; glycerol-3-phosphate dehydrogenase 2, mitochondrial; EC 1.1.5.3; GDH2; GPD-M; GPDH-M; GPDM; mGPDH; mtGPD; mitochondrial glycerophosphate dehydrogenase.

Gene ID 2820

mRNA Refseq NM_000408

Protein Refseq NP_000399

MIM 138430

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UniProt ID	P43304
Chromosome Location	2q24.1
Pathway	Glycerophospholipid metabolism
Function	calcium ion binding; glycerol-3-phosphate dehydrogenase activity; oxidoreductase activity

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