Product Data Sheet

Product Name:	GPD2 Human
Cat. No.:	GP21716
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Glycerol-3-phosphate dehydrogenase mitochondrial; glycerol-3-phosphate dehydrogenase 2 (mitochondrial); GPDH-M; GPD-M; mtGPD; GPD2; GDH2; GPDM; mGPDH.		
Formulation	GPD2 protein solution is supplied in 20mM Tris-HCl pH 8, 1mM EDTA and 50% glycerol.		

Introduction

GPD2 (Mitochondrial glycerol-3-phosphate dehydrogenase) is a Ca2+-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 INS discharge in a number of animal models of non-INS 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.

Stability

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.

Background

Caution: Product has not been fully validated for medical applications. For research use only.
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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 66.26kDa and fused with a 4.5kDa amino-terminal hexahistidine tag. The GPD2 is purified by proprietary chromatographic techniques.

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