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GPD2 Human

Catalog #:ENPS-444

For research use only.

Description: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.

Synonyms: Glycerol-3-phosphate dehydrogenase mitochondrial, glycerol-3-phosphate dehydrogenase 2 (mitochondrial), GPDH-M, GPD-M, mtGPD, GPD2, GDH2, GPDM, mGPDH.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered clear solution.

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

Formulation:

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

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.

Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drμgs, agricultural or pesticidal products, food additives or household chemicals.

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 insulin discharge in a number of animal models of 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.

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