



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human PGAM1 Protein
Catalog Number: hRP-2434
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human phosphoglycerate mutase 1 (PGAM1) gene is a mutase that catalyzes the reversible reaction of 3-phosphoglycerate (3-PGA) to 2-phosphoglycerate (2-PGA) in the glycolytic pathway. Recent data indicated that PGAM1 plays a role in regulating glycolysis pathway for controlling various tumor metabolic activities. PGAM1 is mainly expressed in the liver and brain, and not found in the muscle. Anti-PGAM1 auto-antibodies have been found in sera from patients with autoimmune diseases.

Full-length human PGAM1 (253aa, derived from BC053356) gene was constructed with 29 aa N-terminal T7 / His / TEV cleavage site Tag and was expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: PGAM1 (HEL-S-35; PGAM-B; PGAMA)
Accession Number: NP_002620.1
Species: Human
Size: 40 µg / Vial
Composition: 0.4 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Oslund RC, et al., *Bisphosphoglycerate mutase controls serine pathway flux via 3-phosphoglycerate*. Nat. Chem. Biol. 13 (10), 1081-1087 (2017)

Zhang D, et al., *Phosphoglycerate mutase 1 promotes cancer cell migration independent of its metabolic activity*. Oncogene 36 (20), 2900-2909 (2017)



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

Wang Y, et al., *Molecular dynamics simulation reveals how phosphorylation of tyrosine 26 of phosphoglycerate mutase 1 upregulates glycolysis and promotes tumor growth.* Oncotarget 8 (7), 12093-12107 (2017)

Qu J, et al., *Phosphoglycerate mutase 1 regulates dNTP pool and promotes homologous recombination repair in cancer cells.* J. Cell Biol. 216 (2), 409-424 (2017)

Xu Z, et al., *The diagnostic value and functional roles of phosphoglycerate mutase 1 in glioma.* Oncol. Rep. 36 (4), 2236-2244 (2016)

Applications

1. May be used as auto-antibodies detection reagent, which will react with sera of some auto-immuno-diseases's patients.
2. May be used for in vitro PGAM1 mediated glycolytic pathway regulation study for various cells by intracellular delivery of this protein with protein delivery reagent such as ProFectin reagent kit.
3. May be used for mapping protein-protein interaction.
4. May be used as specific substrate protein for specific kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFEAAYKLVLIRHGESAWNLENRFSGWYDADLSPAGHE
EAKRGGQALRDAGYEFDICFTSVQKRAIRTLWTVLDAIDQMWLPVVRTWRLNERHYGGLTGLNK
AETAAKHGEAQVKIWRRSYDVPPPPMEPDHPPFYSNISKDRRYADLTEDQLPSCESLKDTIARAL
PFWNEEIVPQIKEGKRVLIAAHGNSLRGIVKHLEGLSEEAIMELNLP TGIP I VYELDKNLKPIK
PMQFLGDEETVRKAMEAVAAQ GKAKK