

PHGDH Protein, Human (C-His)

Cat. No.:	HY-P74633A
Synonyms:	D-3-phosphoglycerate dehydrogenase; 3-PGDH; 2-oxoglutarate reductase; PGDH3
Species:	Human
Source:	E. coli
Accession:	O43175 (M1-F533)
Gene ID:	26227
Molecular Weight:	Approximately 57 kDa

PROPERTIES

AA Sequence	<pre> MAFANLRKVL ISDSLDPCCR KILQDGG LQV VEKQNLSKEE LIAELQDCEG LIVRSATKVT ADVINAAEKL QVVGRAGTGV DNVDLEAATR KGI LVMNTPN GNSLSAAELT CGMIMCLARQ IPQATASMKD GKWERKKFMG TELNGKTLGI LGLGRIGREV ATRMQSFGMK TIGYDPIISP EVSASFGVQQ LPLEEIWPLC DFITVHTPLL PSTTGLLNDN TFAQCCKGVR VVNCARGGIV DEGALLRALQ SGQCAGAAALD VFTEEPPRDR ALVDHENVIS CPHLGASTKE AQSRCGEEIA VQFVDMVKGK SLTGVVNAQA LTSAFSPHTK PWIGLAEALG TLMRAWAGSP KGTIQVITQG TSLKNAGNCL SPAVIVGLLK EASKQADVNL VNAKLLVKEA GLNVTTSHSP AAPGEQGFGF CLLAVALAGA PYQAVGLVQG TTPVLQGLNG AVFRPEVPLR RDLPLLLFRT QTS DPAMLPT MIGLLAEAGV RLLSYQTSLV SDGETWHVMG ISSLLPSLEA WKQHVTEAFQ FHF </pre>
Biological Activity	Measured by the ability to catalyze the oxidation of 3-phospho-D-glycerate, which can be measured by absorbance at 340 nm. The specific activity is 3159.161 pmol/min/μg, as measured under the described conditions.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, 200 mM arginine, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

PHGDH (Phosphoglycerate dehydrogenase) is an enzyme that plays a crucial role in cellular metabolism by catalyzing the reversible oxidation of 3-phospho-D-glycerate to 3-phosphonoxy pyruvate, marking the initial step in the phosphorylated L-serine biosynthesis pathway. This pathway is essential for the production of L-serine, a precursor for various cellular components, including nucleotides and proteins. In addition to its role in serine biosynthesis, PHGDH exhibits versatile enzymatic activities, including the reversible oxidation of 2-hydroxyglutarate to 2-oxoglutarate and the reversible oxidation of (S)-malate to oxaloacetate. These additional activities suggest PHGDH's involvement in regulating metabolic flux and maintaining cellular redox balance. Understanding the functions of PHGDH provides insights into the intricate network of metabolic pathways and highlights its significance in supporting fundamental cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA