

Recombinant Human Glucose-6-phosphate Dehydrogenase, His-tagged

Cat. No. G6PD-2397H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant humanG6PD protein, fused to His-tag at N-terminus, was expressed in Hi-5 cellusing baculovirus expression system and purified by using conventionalchromatography
Species	Human
Source	Insect Cells
Description	Glucose-6-phosphatedehydrogenase (G6PD) is the rate-limiting enzyme of the pento se phosphatepathway, a metabolic pathway that supplies reducing energy to cells by maintaining the level of NADPH. G6PD converts glucose-6-phosphate into6-phospho glucono-delta-lactone and simultaneously produce NADPH. The NADPH inturn maint ains the level of glutathione in these cells that helps protect thered blood cells against oxidative damage. G6PD deficiency cause acutehemolytic anemia
Form	Liquid. 20mMTris-HCl buffer (pH8.0) containing 20% glycerol 0.1mM PMSF, 2mM EDTA, 2mMDTT, 200mM NaCl
Molecular Weight	61.4kDa (535aa)
Purity	> 95% by SDS -PAGE
Concentration	0.5mg/ml (determinedby Bradford assay)

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Sequences of aminoacids

MGSSHHHHHSSGLVPRGSH MAEQVALSRT QVCGILREEL FQGDAFHQSD
 THIFIIMGAS GDLAKKKIYP TIWWLFRDGLLPENTFIVGY ARSRLTVADI
 RKQSEPPFFKA TPEEKLKLED FFARNSYVAG QYDDAASYQR
 LNSHMNALHLGSQANRLFYL ALPPTVYEAV TKNIHESCMS QIGWNRRIIVE
 KPFGRLQSS DRLSNHISL FREDQIYRIDHYLGKEMVQN LMVLRFANRI
 FGPIWNRDNI ACVILTFKEP FGTEGRGGYF DEFGIIRDVM
 QNHLLQMLCLVAMEKPASTN SDDVRDEKVK VLKCISEVQA NNVVLGQYVG
 NPDGEGEATK GYLDDPTVPR GSTTATFAAVVLYVENERWD GVPFILRCGK
 ALNERKAEVR LQFHDVAGDI FHQQCKRNEL VIRVQPNEAV
 YTKMMTKKPGMFFNPEESEL DLTYGNRYKN VKLPDAYERL ILDVFCGSQM
 HFVRSDELRE AWRIFTPLLH QIELEKPKPIPIYIYGSRGPT EADELMKRVG
 FQYEGTYKWV NPHKL

Biological activity

Specific activity is > 7 units/ml obtained by measuring the increase of NADPH in absorbance at 340 nm resulting from the reduction of NAD or NADP. One unit oxidizes 1.0 umole D-glucose-6-phosphate to 6-phospho-D-gluconate per min in the presence of beta-NADP at pH 7.4 at 25C

Storage

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

Official symbol

G6PD

GENE INFORMATION

Gene Name

G6PD glucose-6-phosphate dehydrogenase [Homo sapiens]

Synonyms

glucose-6-phosphate dehydrogenase; G6PD1; EC 1.1.1.49; OTTHUMP00000196180; glucose-6-phosphate 1-dehydrogenase; glucose-6-phosphate dehydrogenase, G6PD; OTTHUMP00000026034; OTTHUMP00000026039

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Gene ID	2539
mRNA Refseq	NM_001042351
Protein Refseq	NP_001035810
MIM	305900
UniProt ID	P11413
Chromosome Location	Xq28
Pathway	Glutathionemetabolism; Glutathione metabolism; Glutathione metabolism; Metabolicpathways; Metabolism of carbohydrates; Pentose Phosphate Pathway
Function	NADPbinding; binding; glucose binding; glucose binding; glucose-6-phosphatedehydrogenase activity; oxidoreductase activity; protein homodimerizationactivity

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