

# Recombinant E.coli G6PD protein

Catalog Number: GPD0905

## PRODUCT INFORMATION

**Expression system**

E.coli

**Domain**

1-491aa

**UniProt No.**

P0AC53

**NCBI Accession No.**

NP\_416366.1

**Alternative Names**

Glucose-6-phosphate 1-dehydrogenase, NADP(+)-dependent glucose-6-phosphate dehydrogenase, zwf, b1852, JW1841

## PRODUCT SPECIFICATION

**Molecular Weight**

55.7 kDa (491aa) confirmed by MALDI-TOF

**Concentration**

1mg/ml (determined by Bradford assay)

**Formulation**

Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol, 0.1mM PMSF, 2mM EDTA, 0.5mM DTT

**Purity**

> 95% by SDS-PAGE

**Biological Activity**

Specific activity is > 50unit/mg obtained by measuring the increase of beta-NADPH in absorbance at 340 nm resulting from the reduction of beta-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.

**Tag**

Non-Tagged

**Application**

SDS-PAGE, Enzyme Activity

**Storage Condition**

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

**Description**

Glucose-6-phosphate dehydrogenase (G6PD) is the rate-limiting enzyme of the pentose phosphate pathway, a

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metabolic pathway that supplies reducing energy to cells by maintaining the level of NADPH. G6PD converts glucose-6-phosphate into 6-phosphoglucono-delta-lactone and simultaneously produce NADPH. The NADPH in turn maintains the level of glutathione in these cells that helps protect the red blood cells against oxidative damage. G6PD deficiency cause acute hemolytic anemia. Recombinant G6PD protein was expressed in E. coli and purified by conventional chromatography techniques.

## Amino acid Sequence

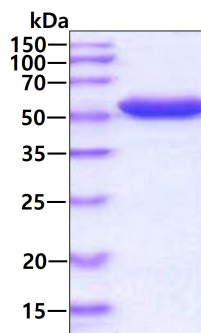
MAVTQTAQAC DLVIFGAKGD LARRKLLPSL YQLEKAGQLN PDTRIIGVGR ADWDKAAYTK VVREALETFM KETIDEGGLWD  
 TLSARLDFCN LDVNDTAAFS RLGAMLDQKN RITINYFAMP PSTFGAICKG LGEAKLNAKP ARVVMKPLG TSLATSQEIN  
 DQVGEYFEEC QVYRIDHYLG KETVLNLLAL RFANSLFVNN WDNRTIDHVE ITVAEEVGIE GRWGYFDKAG QMRDMIQNHL  
 LQILCMIAIS PPSDLSADSI RDEKVKVLKS LRRIDRSNVR EKTVRGQYTA GFAQGKKVPG YLEEEGANKS SNTETFVAIR  
 VDIDNWRWAG VPFYLRGKR LPTKCSEVVV YFKTPELNLF KESWQDLPQN KLTIRLQPDE GVDIQVLNKV PGLDHKHNLQ  
 ITKLDLSYSE TFNQTHLADA YERLLLETMR GIQALFVRRD EEEAWKWVD SITEAWAMDN DAPKPYQAGT WGPVASVAMI  
 TRDGRSWNEF E

## General References

Huang Y., et al. (2008) Mol Genet Metab. 93(1):44-53.  
 Zimny A., et al. (2003) Pol Arch Med Wewn. 110(5):1327-33

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.