

# 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

# Recombinant E.coli G6PD protein

Catalog Number: GPD0905

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

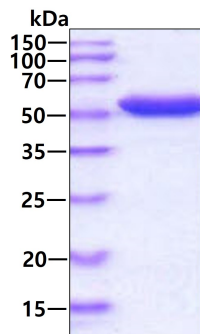
MAVTQTAQAC DLVIFGAKGD LARRKLLPSL YQLEKAGQLN PDTRIIGVGR ADWDKAAYTK VVREALETFM KETIDEGGLWD  
TLSARLDFCN LDVNDTAAFS RLGAMLDQKN RITINYFAMP PSTFGAICKG LGEAKLNAKP ARVVMKPLG TSLATSQEIN  
DQVGEYFEEC QVYRIDHYLG KETVLNLLAL RFANSLFVNN WDNRTIDHVE ITVAEEVGIE GRWGYFDKAG QMRDMIQNHL  
LQILCMIAMS PPSDLSADSI RDEKVKVLKS LRRIDRSNVR EKTVRGQYTA GFAQGKKVPG YLEEEGANKS SNTETFVAIR  
VDIDNWRWAG VPFYLRGKR LPTKCSEVVV YFKTPELNLF KESWQDLPQN KLTIQLQPDE GVDIQLNKKV PGLDHHKHLQ  
ITKLDLSYSE TFNQTHLADA YERLLLETMR GIQALFVRRD EVEEAWKWVD 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.