

# Recombinant human G6PD protein

Catalog Number: ATGP1533

## PRODUCT INFORMATION

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### Expression system

Baculovirus

### Domain

1-515aa

### UniProt No.

P11413

### NCBI Accession No.

NP\_001035810.1

### Alternative Names

glucose-6-phosphate 1-dehydrogenase, G6PD1, G6PDH

## PRODUCT SPECIFICATION

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### Molecular Weight

61.4 kDa (535aa)

### Concentration

0.5mg/ml (determined by Bradford assay)

### Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 0.1mM PMSF, 2mM EDTA, 2mM DTT, 200mM NaCl

### Purity

> 95% by SDS-PAGE

### Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

### Biological Activity

Specific activity is > 45unit/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

His-Tag

### 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.

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## BACKGROUND

### Description

Glucose-6-phosphate dehydrogenase (G6PD) is the rate-limiting enzyme of the pentose phosphate pathway, a 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 human G6PD protein, fused to His-tag at N-terminus, was expressed in insect cell using baculovirus expression system and purified by using conventional chromatography.

### Amino acid Sequence

<MGSSHHHHHH SGLVPRGSH> MAEQVALSRT QVCGILREEL FQGDAFHQSD THIFIIMGAS GDLAKKKIYP  
TIWWLFRDGL LPENTFIVGY ARSRLTVADI RKQSEPFKA TPEEKLKLED FFARNSYVAG QYDDAASYQR LNSHMNALHL  
GSQANRLFYL ALPPTYEAV TKNIHESCMS QIGWNRIIVE KPFGRLQSS DRLSNHISL FREDQIYRID HYLKEMVQN  
LMVLRFANRI FGPIWNRDNI ACVILTFKEP FGTEGRGGYF DEFGIIRDVM QNHLLQMLCL VAMEKPASTN SDDVRDEKVK  
VLKCISEVQA NNVVLGQYVG NPDGEGEATK GYLDDPTVPR GSTTATFAAV VLYVENERWD GVPFILRCGK ALNERKAEVR  
LQFHDVAGDI FHQQCKRNL VIRVQPNEAV YTKMMTKKPG MFFNPEESEL DLTYGNRYKN VKLPDAYERL ILDVFCGSQM  
HFVRSDELRE AWRIFTPLLH QIELEKPKPI PYIYGSRGPT EADELMKRVG FQYEGTYKWV NPHKL

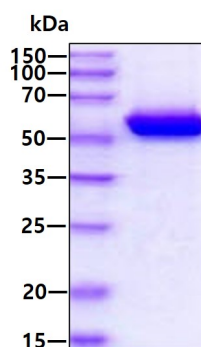
### General References

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