

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

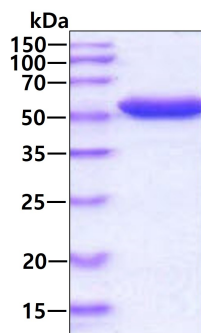
MAVTQTAQAC DLVIFGAKGD LARRKLLPSL YQLEKAGQLN PDTRIIGVGR ADWDKAAYTK VVREALETFM KETIDEGGLWD
TLSARLDFCN LDVNDTAAFS RLGAMLDQKN RITINYFAMP PSTFGAICKG LGEAKLNAKP ARVVMKPLG TSLATSQEIN
DQVGEYFEEC QVYRIDHYLG KETVLNLLAL RFANSLFVNN WDNRTIDHVE ITVAEEVGIE GRWGYFDKAG QMRDMIQNHL
LQILCMIAMS PPSDLSADSI RDEKVKVLKS LRRIDRSNVR 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.