

AR09140PU-L

Recombinant E. coli G6PD (aa 1-491)

Alternate names:

Glucose-6-P-Dehydrogenase, Glucose-6-phosphate 1-dehydrogenase

Quantity:

0.5 mg

Concentration:

1.0 mg/ml (determined by Bradford assay)

Background:

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- δ -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.

Uniprot ID:

[P0AC53](#)

NCBI:

[NP_416366](#)

GeneID:

[946370](#)

Species:

E. coli

Source:

E. coli

Format:

State: Liquid purified protein

Purity: >90% by SDS - PAGE

Buffer System: 50 mM MES 6.0, 0.1 mM PMSF, 2 mM EDTA, 0.5 mM DTT, 10% glycerol

Description:

Recombinant G6PD protein was expressed in E.coli and purified by conventional chromatography techniques.

AA Sequence:

MAVTQTAQAC DLVIFGAKGD LARRKLLPSL YQLEKAGQLN PDTRIIGVGR ADWDKAAAYTK
VVREALETFM KETIDEGLWD TLSARLDFCN LDVNDTAAFS RLGAMLDQKN RITINYFAMP
PSTFGAICKG LGEAKLNAKP ARVVMKPLG TSLATSQEI DQVGEYFECC QVYRIDHYLG
KETVLNLLAL RFANSLFVNN WDNRTIDHVE ITVAEEVGIE GRWGYFDKAG QMRDMIQNH
LQILCMIAMS PPSDLSADSI RDEKVKVLKS LRRIDRSNVR EKTVRGQYTA GFAQGKKVPG
YLEEEGANKS SNTETFVAIR VDIDNWRWAG VPFYLRGKR LPTKCSEVVV YFKTPELNLF
KESWQDLPQN KLTIRLQPDE GVDIQVLNKKV PGLDHKHNQ ITKLDLSYSE TFNQTHLADA
YERLLLETMR GIQALFVRRD EEEAWKWVD SITEAWAMDN DAPKPYQAGT WGPVASVAMI
TRDGRSWNEF E

Biological Activity: Specific activity is > 70 units/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 25°C.

Molecular weight: 55.7 kDa (491 aa), confirmed by MALDI-TOF

Storage:

Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C or -70°C for longer.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

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.

Pictures:

Recombinant E. coli G6PD, aa 1-491: 15%
SDS-PAGE (4 µg)

