

Datasheet for ABIN935018

Glucose-6-Phosphate Dehydrogenase Protein (G6PD) (AA 1-491)

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1 Image

Overview

Quantity:	100 µg
Target:	Glucose-6-Phosphate Dehydrogenase (G6PD)
Protein Characteristics:	AA 1-491
Origin:	E. coli
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	SDS-PAGE (SDS)

Product Details

Sequence:	MAVTQTAQAC DLVIFGAKGD LARRKLLPSL YQLEKAGQLN PDTRIIGVGR ADWDKAAAYTK VVREALETFM KETIDEGLWD TLSARLDFCN LDVNDTAAFS RLGAMLDQKN RITINYFAMP PSTFGAICKG LGEAKLNAKP ARVVMKPLG TSLATSQEIN DQVGEYFEEC QVYRIDHYLG KETVLNLLAL RFANSLFVNN WDNRTIDHVE ITVAEEVGIE GRWGYFDKAG QMRDMIQNH LQILCMIAMS PPSDLSADSI RDEKVKVLKS LRRIDRSNVR EKTVRGQYTA GFAQGGKVP YLEEEGANKS SNTETFVAIR VDIDNWRWAG VPFYLRGKR LPTKCSEVVV YFKTPELNLF KESWQDLPQN KLTIRLQPE GVDIQLNKV PGLDHKHNLQ ITKLDLSYSE TFNQTHLADA YERLLETMR GIQALFVRRD EVEEAWKWVD SITEAWAMDN DAPKPYQAGT WGPVASVAMI TRDGRSWNEF E
Characteristics:	Purified recombinant E.coli G6 PD protein Expression System: E.coli Bioactivity: Specific activity is 8-10 units/mL obtained by measuring the increase of NADPH in

Product Details

absorbance at 340 nm resulting from the reduction of NAD or NADP. One unit oxidizes 1.0 m 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 on SDS-PAGE will appear higher.

Purity: > 90 % pure

Target Details

Target: Glucose-6-Phosphate Dehydrogenase (G6PD)

Alternative Name: [G6PD \(G6PD Products\)](#)

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-phosphogluconolactone and simultaneously produces 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.

Alternative Names: Glucose 6 phosphate 1 dehydrogenase protein, G6PD1 protein, zwf protein, GPD 6, Glucose-6-phosphate 1-dehydrogenase G6PD protein, Glucose-6-phosphate 1-dehydrogenase protein, G6PD, POS10 protein, GPD-6, GPD-6 protein, MET19 protein, GPD 6 protein, G6pdx protein, Zwf1p.

Molecular Weight: 55.7 kDa (491 AA)

Pathways: [Regulation of Systemic Arterial Blood Pressure by Hormones](#)

Application Details

Application Notes: G6PD protein has been used in SDS PAGE and may be suitable for use in other assays to be determined by the end user.

Assay Procedure:

1. Prepare a 3 mL reaction cocktail into a suitable container: The final concentrations are 53 mM glycylglycine, 3 mM D-glucose 6-phosphate, 0.63 mM beta-NADP, 13 mM MgCl₂.
2. Equilibrate to 25 °C and monitor at A340 nm until the value is constant using a spectrophotometer.
3. Add 4 µg of recombinant G6PD into reaction cocktail and mix immediately.
4. Record the increase at A340 nm for 5 minutes.

Application Details

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: 50 mM MES 6.0, 0.0 mM PMSF, 0 mM EDTA, 0.0 mM DTT, and 10 % glycerol.

Preservative: Dithiothreitol (DTT)

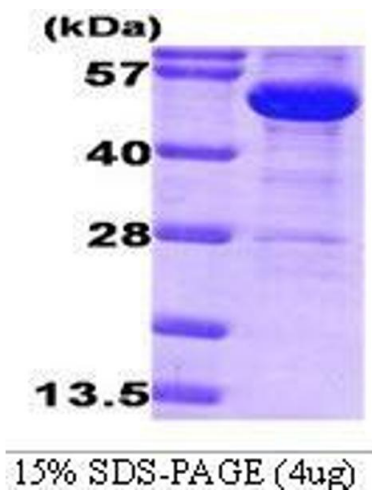
Precaution of Use: This product contains Dithiothreitol: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.

Handling Advice: Avoid repeated freeze/thaw cycles.

Storage: RT/-20 °C

Storage Comment: Store at 4 °C for short term storage (1/2 weeks). Aliquot and store at -20 °C or -70 °C for long term storage.

Images



SDS-PAGE

Image 1. Figure annotation denotes ug of protein loaded and % gel used.