

## G6PD E.Coli

**Description:** G6PD E.Coli Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 491 amino acids and having a molecular mass of 55.7kDa. The G6PD is purified by proprietary chromatographic techniques.

**Catalog #:** ENPS-406

For research use only.

**Synonyms:** G6PD, G6PD1, Glucose-6-phosphate 1-dehydrogenase.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile filtered colorless solution.

**Amino Acid Sequence:** MAVTQTAQAC DLVIFGAKGD LARRKLLPSL YQLEKAGQLN  
PDTRIIGVGR ADWDKAAYTK VVREALETFM KETIDGLWD TLSARLDFCN LDVNDTAAFS  
RLGAMLDQKN RITINYFAMP PSTFGAICKG LGEAKLNAKP ARVVMKPLG TSLATSQEIN  
DQVGEYFEEC QVYRIDHYLG KETVLNLLAL RFANSLFVNN WDNRTIDHVE ITVAEEVGIE  
GRWGYFDKAG QM

**Purity:** Greater than 90.0% as determined by SDS-PAGE.

### Formulation:

The G6PD protein contains 50mM MES 6.0, 0.1mM PMSF, 2mM EDTA, 0.5mM DTT and 10% glycerol.

### Stability:

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

### Introduction:

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--lactone and at the same time produces NADPH. The NADPH maintains the level of glutathione in these cells that helps protect the red blood cells against oxidative damage. G6PD deficiency causes acute hemolytic anemia, neonatal jaundice or acute hemolysis. G6PD is a cytosolic enzyme encoded by an X-linked gene whose main function is to produce NADPH, a crucial electron donor in the defense against oxidizing agents and in reductive biosynthetic reactions. G6PD produces pentose sugars for nucleic acid synthesis and is a main producer of NADPH reducing power.

### Biological Activity:

Specific activity is 8-10 units/ml obtained by measuring the increase of NADPH in absorbance at 340 nm resulting from the reduction of NAD or 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.

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