

## G6PD Human

**Description:**G6PD Human Recombinant produced in Hi-5 cells is a single polypeptide chain containing 535 amino acids (1-515) and having a molecular mass of 61.4kDa.G6PD is fused to a 20 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

Catalog #:ENPS-615

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

For research use only.

**Source:**Hi-5 cells.

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

**Amino Acid Sequence:**MGSSHHHHH SSGLVPRGSH MAEQVALSRT QVCGILREEL  
FQGDAFHQSD THIFIIMGAS GDLAKKKIYP TIWWLFRDGL LPENTFIVGY ARSRLTVADI  
RKQSEPFKA TPEEKLKLED FFARNSYVAG QYDDAASYQR LNSHMNALHL GSQANRLFYL  
ALPPTVYEAV TKNIHESCMS QIGWNRIIVE KPFGRDLQSS DRLSNHISL FREDQIYRID  
HYLGKEMVQN LM

**Purity:**Greater than 95% as determined by SDS-PAGE.

### Formulation:

The G6PD solution (0.5mg/1ml) contains 20mM Tris-HCl buffer (pH 8.0), 0.1mM PMSF, 2mM EDTA, 2mM DTT, 200mM NaCl and 20% 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 > 7 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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