
Product Data Sheet

Product Name: G6PD Human

Cat. No.: GP21648

Batch No.: 1

Product Data

Purity	>98%	Source	Hi-5 cells.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	G6PD; G6PD1; Glucose-6-phosphate 1-dehydrogenase.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MAEQVALSRT QVCGILREEL FQGDAFHQSD THIFIIMGAS GDLAKKKIYP TIWWLFRDGL LPENTFIVGY ARSRLTVADI RKQSEPFKA TPEEKLKLED FFARNSYVAG QYDDAASYQR LNSHMNALHL GSQANRLFYL ALPPTVYEAV TKNIHESCMS QIGWNRIIVE KPFGRDLQSS DRLSNHISSL FREDQIYRID HYLKEMVQN LMVLRFANRI FGPIWNRDNI ACVILTFKEP FGTEGRGGYF DEFGIIRDVM QNHLLQMLCL VAMEKPASTN SDDVRDEKVK VLKCISEVQA NNVVLGQYVG NPDGEGEATK GYLDDPTVPR GSTTATFAAV VLYVENERWD GVPFILRCGK ALNERKAEVR LQFHDVAGDI FHQQCKRNEL VIRVQPNEAV YTKMMTKKPG MFFNPEESEL DLTYGNRYKN VKLPDAYERL ILDVFCGSQM HFVRSDELRE AWRIFTPLLH QIELEKPKPI PYYGSRGPT EADELMKRVG FQYEGTYKWV NPHKL		
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.		

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- δ -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

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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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.

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.

Background

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.

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