



PHOSPHOGLUCOSE ISOMERASE from *Bacillus subtilis* (Lot 151001a)

Recombinant

E-PGIBS-5KU

02/19

(EC 5.3.1.9) D-glucose-6-phosphate aldose-ketose-isomerase

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW = ~ 50,500)
- Single major band on isoelectric focusing (pI = ~ 5.0)

2. SPECIFIC ACTIVITY:

> 60 U/mg protein at pH 7.6 and 25°C.

One Unit of PGI enzyme activity is the amount of enzyme required to produce one μ mole of NADH from NAD⁺ under the following assay conditions:

Tris.HCl buffer, pH 7.6	88 mM
Glucose 6-phosphate dehydrogenase	6.4 U/assay
Fructose 6-phosphate	3.14 mM
NAD ⁺	0.51 mM
BSA	0.4 mg/mL
MgCl ₂	4.4 mM

3. SPECIFICITY:

Catalyses the reaction:
D-Glucose 6-phosphate = D-fructose 6-phosphate.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Enzyme Measured	Substrate	Activity, %
Hexokinase	Glucose	< 0.002
Glucose 6-Phosphate Dehydrogenase	Glucose 6-phosphate	< 0.0001
Phosphomannose Isomerase	Mannose 6-Phosphate	~ 0.016
α -Glucosidase	<i>p</i> -Nitrophenyl α -D-glucose	< 0.00002
β -Glucosidase	<i>p</i> -Nitrophenyl β -D-glucose	< 0.00001
NADH Oxidase	NADH	< 0.0005

All activities were measured at 340 nm in 88 mM Tris.HCl buffer (pH 7.6) at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 7.6 and up to 40°C.

6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension and should be stored at 4°C. For use in the measurement of fructose 6-phosphate, refer to the **Glucose/Fructose Assay Kit booklet (Megazyme)** for details of required concentrations, aliquots and incubation times. **Swirl to mix the enzyme immediately prior to use.**