



## PHOSPHOGLUCOSE ISOMERASE from *E. coli* (Lot 150107b)

### Recombinant

#### E-PGIEC-10KU

09/19

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

CAS: 9001-41-6

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW = 62,600)
- Single major band on isoelectric focusing (pI = 5.3); several minor bands pI 5.3-5.5.

#### 2. SPECIFIC ACTIVITY:

**550 U/mg protein at pH 7.6 and 25°C;**

~ 654 U/mg protein at pH 7.6 and 40°C.

**One Unit** of PGI enzyme activity is the amount of enzyme required to produce one  $\mu$ mole of NADH from  $\text{NAD}^+$  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
$\text{NAD}^+$	0.51 mM
BSA	0.4 mg/mL
$\text{MgCl}_2$	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, %
Phosphoglucose Isomerase	Fructose 6-phosphate	100
Hexokinase	Glucose	< 0.0001
Glucose 6-Phosphate Dehydrogenase	Glucose 6-phosphate	< 0.0002
Phosphomannose Isomerase	Mannose 6-Phosphate	~ 0.003
$\alpha$ -Glucosidase	<i>p</i> -Nitrophenyl $\alpha$ -D-glucose	< 0.00001
$\beta$ -Glucosidase	<i>p</i> -Nitrophenyl $\beta$ -D-glucose	< 0.00001
NADH Oxidase	NADH	< 0.0003

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 AND USE CONDITIONS/RECOMMENDATIONS:

The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide 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.**