

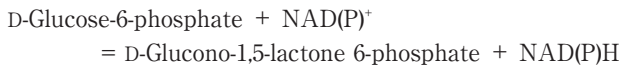
# rG-6-PDH (L.M.)

## Glucose-6-phosphate 1-dehydrogenase, recombinant from *Leuconostoc mesenteroides*

D-Glucose-6-phosphate : NADP<sup>+</sup> 1-oxidoreductase (EC 1.1.1.49)

**Host cell : *E. coli***

### Reaction Equation



### Specification

#### Specific Activity

IU/mg protein

#### Specifications

>850 units

#### Contaminants

Hexokinase	<0.01%
Phosphoglucose isomerase	<0.005%
Phosphoglucose dehydrogenase	<0.001%
Creatine kinase	<0.001%
Glutathione reductase	<0.001%
Phosphoglucomutase	<0.001%
Myokinase	<0.001%
Lactate dehydrogenase	<0.01%

### Profile

pH stability : pH 5.5 - 8.0 (37°C, 1 week)  
 Thermal stability : ≤45°C (pH 6.6, 10 min)  
 Optimum pH : 7.5 - 8.0  
 Optimum temperature : 45°C  
 Km value : 264 μmol/L (NAD<sup>+</sup>) , 45 μmol/L (NADP<sup>+</sup>)  
                   206 μmol/L (G-6-P, NAD<sup>+</sup>-linked)  
                   145 μmol/L (G-6-P, NADP<sup>+</sup>-linked)  
 MW : 55 kD (SDS-PAGE) , 146 kD (gel filtration)

### Assay Procedure

#### I. Spectrophotometric Method

Wavelength ; 340 nm, Light path length ; 1 cm,  
 Temperature ; 30°C

Pipette the following reagents into a cuvette

2.80 mL	Tris-HCl buffer (55 mmol/L, pH 7.8, 30°C) containing MgCl <sub>2</sub> (3.3 mmol/L)
0.10 mL	NAD <sup>+</sup> (60 mmol/L)
0.10 mL	G-6-P (100 mmol/L)
0.02 mL	rG-6-PDH (L.M.) (about 3 IU/mL)

#### II. Calculation

$$\frac{\Delta A/\text{min} \cdot V \cdot D}{6.3 \cdot d \cdot v} = \text{IU/mL}$$

ΔA/min = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (3.02 mL)

D = Enzyme dilution factor

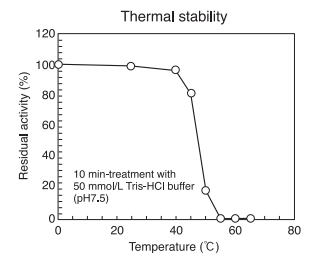
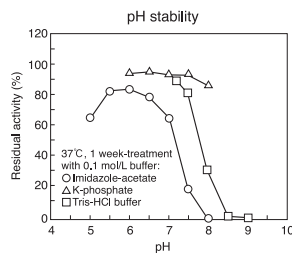
6.3 = mM extinction coefficient of NADH

(L · mmol<sup>-1</sup> · cm<sup>-1</sup>)

d = Light path length (1 cm)

v = Volume of enzyme sample (0.02 mL)

### Reference Data



### Preparation and storage

Product Code :

Lyophilized powder (contains no ammonium sulfate)

.....below -20°C

IU per 1 mg powder is >400 units.

### OYC No./Package

OYC No.	Package
46857003	200 units
46854003	1,000 units
46854903	Bulk

(Research reagent use only, not for medical use.)

