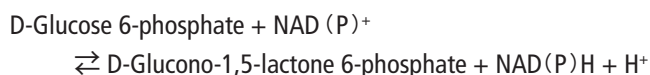


rG6PDH(L)

recombinant Glucose 6-phosphate dehydrogenase EC 1.1.1.49

from *Leuconostoc* sp.

Reaction Equation



Specification

Specific Activity

U/mg protein > 600 units

Contaminants

Hexokinase	< 0.01%
Phosphoglucose isomerase	< 0.005%
Phosphogluconate dehydrogenase	< 0.001%
Creatine kinase	< 0.001%
Glutathione reductase	< 0.001%
Phosphoglucomutase	< 0.001%
Myokinase	< 0.001%
Lactate dehydrogenase	< 0.01%
Pi	< 0.1%

Properties

pH stability	: pH 5.0 - 9.0 (25°C, 1 week)
Thermal stability	: ≤ 37°C (pH 7.8, 10 min)
Optimum pH	: 7.5
Optimum temp.	: 45°C
Km value	: 2.2 × 10 ⁻⁴ mol/L (G6P, NAD ⁺ -linked) 2.6 × 10 ⁻⁴ mol/L (NAD ⁺) 1.4 × 10 ⁻⁴ mol/L (G6P, NADP ⁺ -linked) 1.2 × 10 ⁻⁵ mol/L (NADP ⁺)
Molecular weight	: 54 kDa (SDS-PAGE)

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm
Final volume : 3.02 mL, 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 ₂ (3.3 mmol/L)
0.10 mL	NAD ⁺ (60 mmol/L)
0.10 mL	G6P (0.1 mol/L)
0.02 mL	rG6PDH(L) (approx. 3 U/mL)

II Calculation

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

Δ A/min = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (3.02 mL)

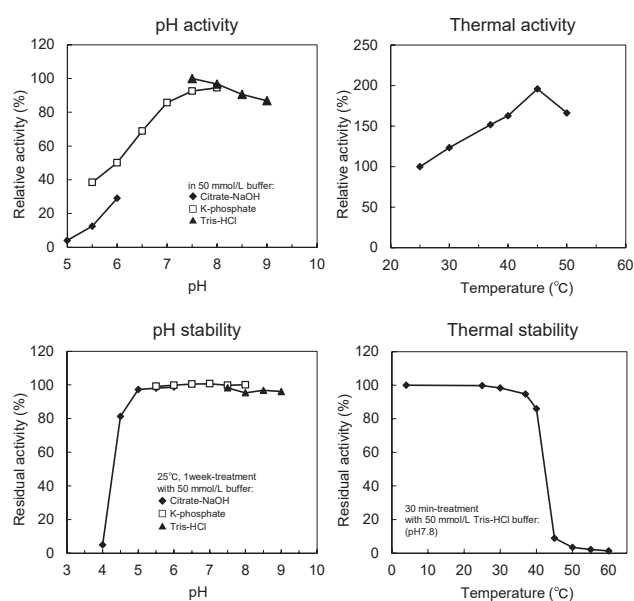
D = Enzyme dilution factor

6.3 = mmol/L extinction coefficient of NADH
(L · mmol⁻¹ · cm⁻¹)

d = Light path length (1 cm)

v = Volume of enzyme sample (0.02 mL)

Reference Data



Preparation and Storage

Lyophilized powder (Ammonium sulfate free)

Store below -20°C

Cat. No./Package

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

For in vitro diagnostic or research use only



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