r6PGL(L)

recombinant 6-Phosphogluconolactonase EC 3.1.1.31

from Leuconostoc sp.

Reaction Equation

6-phospho-D-glucono-1,5-lactone + H_2O

⇄ 6-phospho-D-gluconate

Specification

Specific Activity

U/mg protein > 7,000 units

Properties

pH stability : pH 5.0 - 9.5 (25 °C, 1 week)
Thermal stability : ≦ 60 °C (pH 7.5, 10 min)
Optimum pH : 6.0
Optimum temp. : 25 - 37 °C
Molecular weight : 40 kDa (SDS-PAGE)

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm
Final volume : 3.05 mL, Temperature : 25 °C

Pipette the following reagents into a cuvette

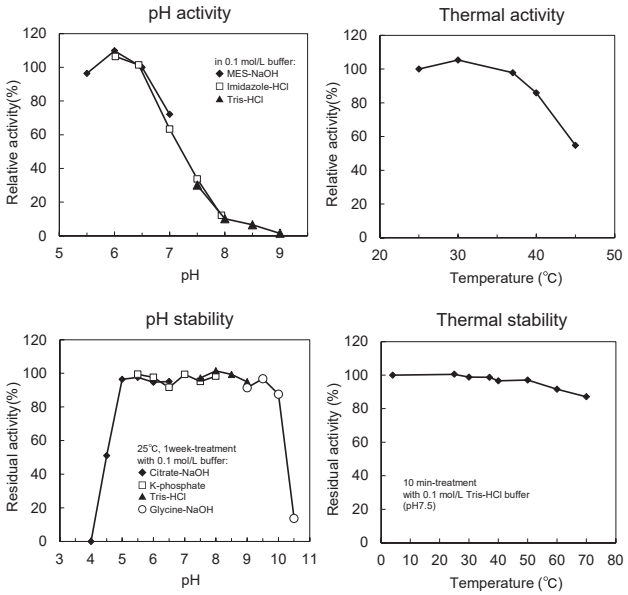
2.84 mL	MES-KOH buffer (32 mmol/L, pH 6.5) containing $MgCl_2$ (2.1 mmol/L)
0.08 mL	D-Glucose 6-phosphate (10 mmol/L)
0.08 mL	NAD^+ (10 mmol/L)
0.03 mL	G6PDH (1,000 U/mL)
0.02 mL	r6PGL (L) (approx. 3 U/mL)

II Calculation

$$\frac{\Delta\ A/min \cdot V \cdot D \cdot 3.6}{6.3 \cdot d \cdot v} = U/mL$$

Δ A/min = The change in absorbance at 340 nm/minute
V = Total volume of reaction mixture (3.03 mL)
D = Enzyme dilution factor
6.3 = mmol/L extinction coefficient of NADH ($L \cdot mmol^{-1} \cdot cm^{-1}$)
d = Light path length (1 cm)
v = Volume of enzyme sample (0.02 mL)
3.6 = The 1μmol NADH produced per min should be multiplied by 3.6 to give μmol 6-phophogluconolactone hydrolysed per min.

Reference Data



Preparation and Storage

Lyophilized powder
Store below -20 °C

Cat. No./Package

Cat. No.	Package
46765900	Bulk

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