

rGK

recombinant Glycerol kinase from Bacteria

ATP: glycerol 3-phosphotransferase [EC 2.7.1.30]

Reaction Equation



Specification

Specific activity

U/mg protein > 200 units

Contaminants

ATPase < 0.005%

Catalase < 0.05%

Hexokinase < 0.025%

Myokinase < 0.025%

NADH oxidase < 0.005%

Assay Procedure

I. Spectrophotometric Method

Wavelength: 340 nm, Light path length: 1 cm

Final volume: 3.05 mL, Temperature: 37° C

Lag time: 5 min

Pipette the following reagents into a cuvette

2.40 mL Diethanolamine buffer
(0.7 mol/L, pH 9.5)

0.30 mL MgCl₂ (90 mmol/L)

0.10 mL ATP (0.24 mol/L)

0.10 mL PEP (0.21 mol/L)

0.05 mL NADH (17 mmol/L)

0.05 mL Glycerol (0.36 mol/L)

0.01 mL PK (1300 U/mL)

0.02 mL LDH (1000 U/mL)

0.02 mL rGK (approx. 2 U/mL)

Preparation and Storage

Lyophilized powder

Store below -20° C

II. Calculation

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

Properties

pH stability : pH 5.5-8.5 (30° C, 1 week)

Thermal stability : ≦65° C (pH 7.0, 10 min)

Optimum pH : pH 9.5

Optimum temp. : ≧50° C

Km value : 6.0×10⁻⁵ mol/L (ATP)

: 8.2×10⁻⁵ mol/L (Glycerol)

Molecular weight : approx. 52 kDa (SDS-PAGE)

ΔA/min : The change in absorbance at 340 nm/minute
(reverse the blank activation of rGK(-))

V : Total volume of reaction mixture (3.05 mL)

D : Enzyme dilution factor

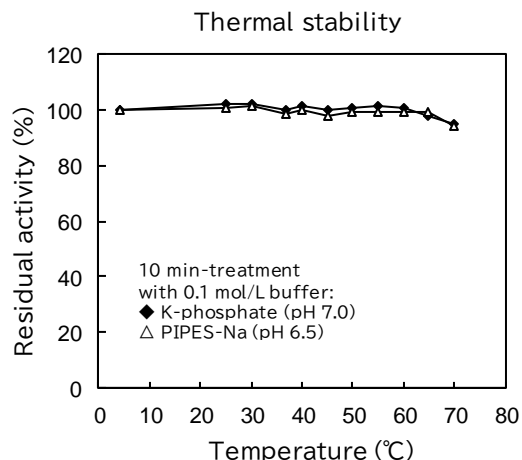
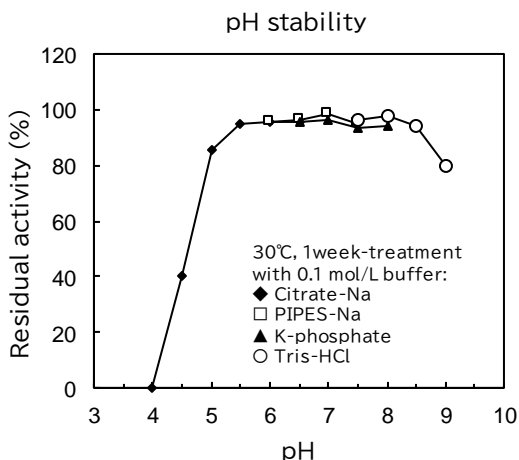
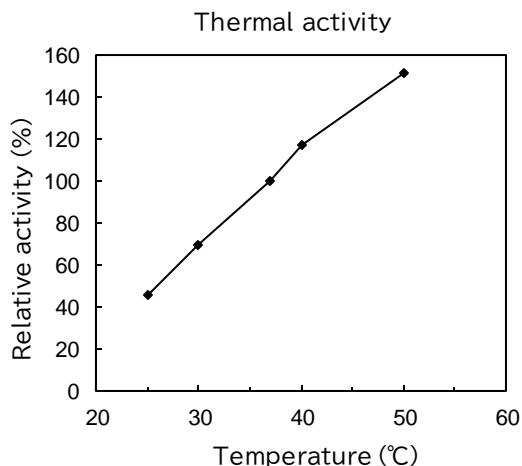
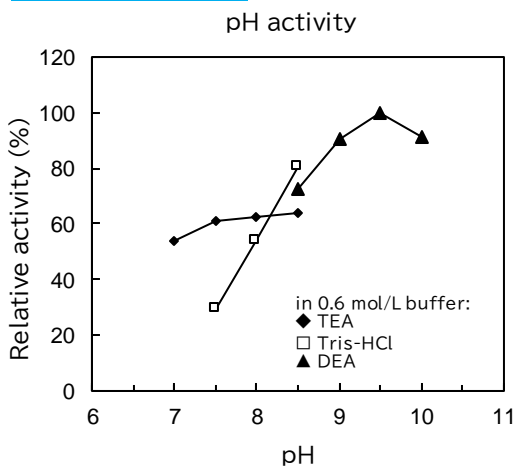
6.3 : mmol/L extinction coefficient of NADH
(L·mmol⁻¹·cm⁻¹)

d : Light path length (1 cm)

v : Volume of enzyme sample (0.02 mL)



Reference Data



Item	Catalog number	Packing size
rGK	46898903	Bulk

*For in vitro diagnostic or research use only.

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