

rGK

recombinant Glycerol kinase EC 2.7.1.30

from *Bacteria*

Reaction Equation

$$\text{ATP} + \text{Glycerol} \rightarrow \text{ADP} + \text{L-Glycerol 3-phosphate}$$

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%

Properties

pH stability	: pH 5.5 - 8.5 (30°C, 1 week)
Thermal stability	: $\leq 65^\circ\text{C}$ (pH 7.0, 10 min)
Optimum pH	: pH 9.5
Optimum temp.	: $\geq 50^\circ\text{C}$
K _m value	: 6.0×10^{-5} mol/L (ATP) 8.2×10^{-5} mol/L (Glycerol)
Molecular weight	: 52 kDa (SDS-PAGE)

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	MgCl ₂ (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 (1,300 U/mL)
0.02 mL	LDH (1,000 U/mL)
0.02 mL	rGK (approx. 2 U/mL)

II Calculation

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

 $\Delta A/\text{min}$ = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (3.05 mL)

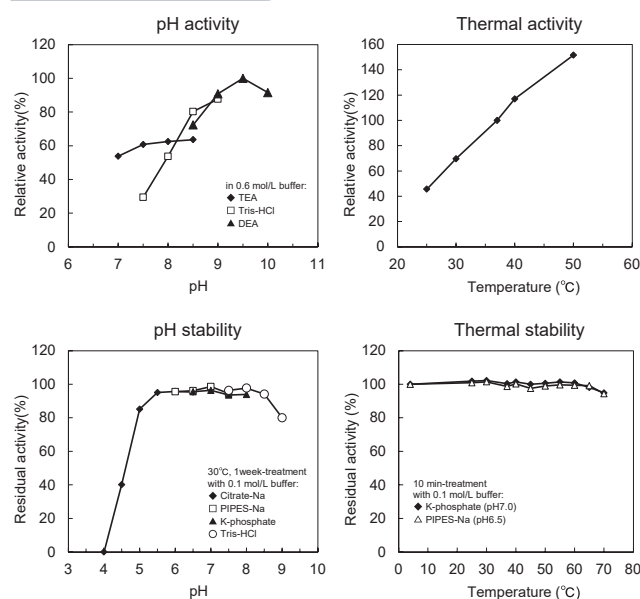
D = Enzyme dilution factor

6.3 = mmol/L extinction coefficient of NADH
($\text{L} \cdot \text{mmol}^{-1} \cdot \text{cm}^{-1}$)

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
46898903	Bulk

For in vitro diagnostic or research use only



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