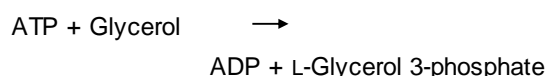


# rGK

recombinant Glycerol kinase from Bacteria  
ATP: glycerol 3-phosphotransferase [EC 2.7.1.30]

## Reaction Equation



## Specification

Specific activity	
IU/mg protein	> 200 units
Contaminants	
ATPase	< 0.005%
Catalase	< 0.05%
Hexokinase	< 0.025%
Myokinase	< 0.025%
NADH oxidase	< 0.005%

## Preparation and Storage

Lyophilized powder  
Store below -20°C

## 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 <sup>-5</sup> mol/L (ATP) 8.2 × 10 <sup>-5</sup> 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 <sub>2</sub> (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 IU/mL)

### II. Calculation

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

$\Delta A/\text{min}$  : 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

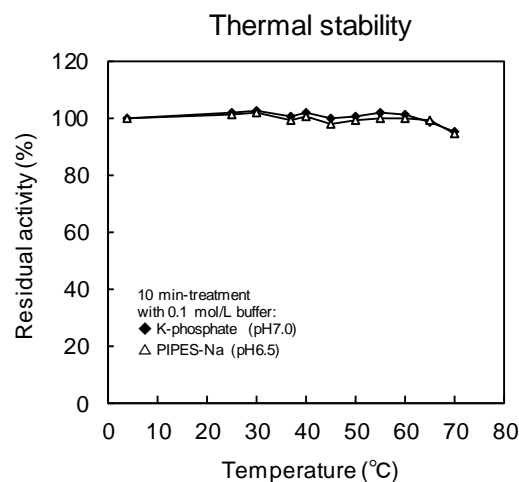
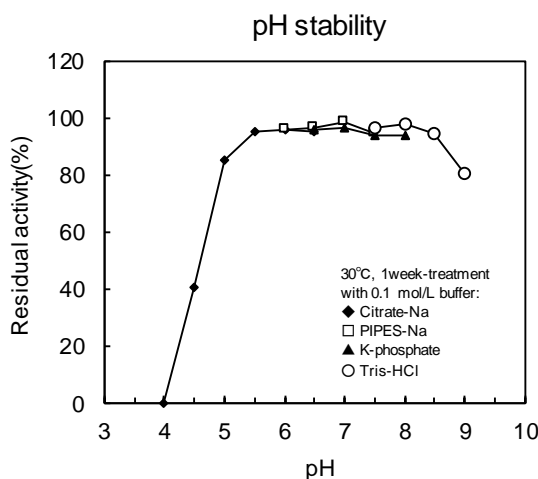
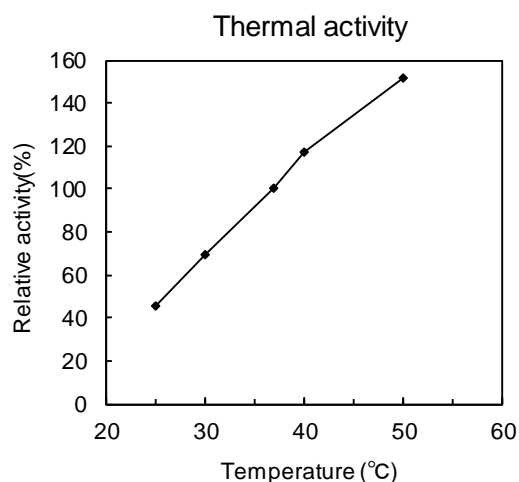
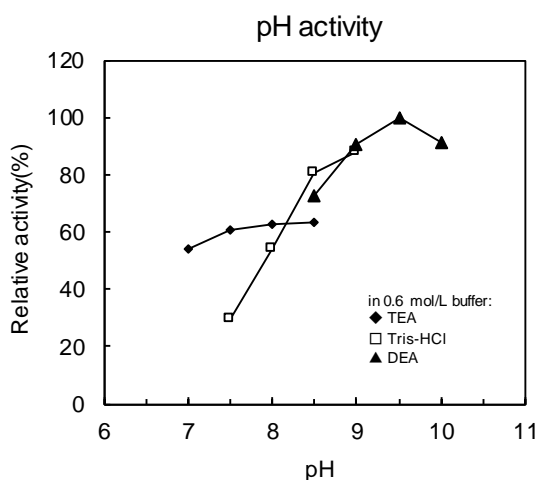
6.3 : mmol/L extinction coefficient of NADH  
(L·mmol<sup>-1</sup>·cm<sup>-1</sup>)

d : Light path length (1 cm)

v : Volume of enzyme sample (0.02 mL)



Reference Data



Product name	OYC No.	Package	Price
rGK	46898903	Bulk	Please inquiry

The product is intended for in vitro diagnostic or research use only.



**ORIENTAL YEAST CO.,LTD.**

Please contact the one that best suits your need.

**ORIENTAL YEAST CO., LTD.**

Corporate Headquarters (Tokyo, Japan)

URL : <http://www.oyc-bio.jp/>

E-mail : [fbi@oyc.co.jp](mailto:fbi@oyc.co.jp)

Phone : +81-3-3968-1192

Fax : +81-3-3968-4863

**OYC Americas, Inc.**

(Vista, USA)

URL : <http://www.oycus.com/>

E-mail : [service@oycus.com](mailto:service@oycus.com)

Phone : +1-760-659-5943

Fax : +1-760-201-8950

**OYC EU B.V.**

(Rotterdam, The Netherlands)

URL : <http://www.oyceu.com/>

E-mail : [info@oyceu.com](mailto:info@oyceu.com)

Phone : +31-10-4145777

Fax : +31-10-2134919

**ORIENTAL YEAST INDIA Pvt. Ltd.**

(Mumbai, INDIA)

URL : <http://oycindia.com/>

E-mail : [info@oycindia.com](mailto:info@oycindia.com)

Phone : +91-22-27717107

Fax : +91-22-27717107