

rHK

Hexokinase, recombinant from *Kluyveromyces fragilis*

ATP : D-hexose 6-phosphotransferase (EC 2.7.1.1)

Host cell : *E. coli*

Reaction Equation

ATP + D-Hexose = ADP + D-Hexose 6-phosphate

Specification

Specific Activity

IU/mg protein

Specifications

>150 U/mg protein

Contaminants

Phosphoglucose isomerase	<0.003%
Glutathione reductase	<0.005%
Myokinase	<0.001%
Phosphogluconate dehydrogenase	<0.001%
Phosphoglucomutase	<0.001%
Glucose-6-phosphate dehydrogenase	<0.005%
Creatine kinase	<0.005%
ATPase	<0.003%
Glucose dehydrogenase	<0.001%
Invertase	<0.005%
Alkaline phosphatase	<0.00001%

Profile

pH stability : pH 6.0 - 9.0 (4°C, 1 week)

Thermal stability :

≤40°C (Tris-HCl buffer, pH 7.5, 15 min)

≤40°C (Imidazole-acetate buffer, pH 6.6, 15 min)

Optimum pH : 7.5 - 8.0

Optimum temperature : ≥55°C

Km value : 0.13 mmol/L (Glucose)

0.21 mmol/L (ATP)

MW : 54 kD (SDS-PAGE)

Assay Procedure

I. Spectrophotometric Method

Wavelength ; 340 nm, Light path length ; 1 cm,

Temperature ; 25°C

Pipette the following reagents into a cuvette

3.00 ml 40 mg/ml Glucose, 10 mmol/L MgCl₂,
0.5 mmol/L ATP, 0.5 mmol/L NADP⁺,
5.5 U/ml G-6-PDH, 80 mmol/L
Triethanolamine (TEA) - HCl buffer
(pH 7.5, 25°C)

0.02 ml rHK (about 2 U/ml)

II. Calculation

$$\frac{\Delta A/\text{min} \cdot V \cdot D}{6.2 \cdot d \cdot v} = \text{IU/mL}$$

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

V = Total volume of reaction mixture (3.02 mL)

D = Enzyme dilution factor

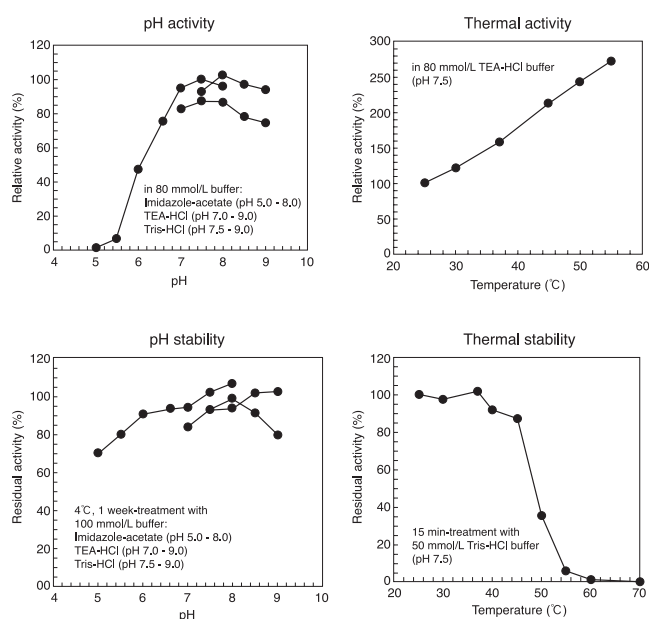
6.2 = mM extinction coefficient of NADPH

(L · mmol⁻¹ · cm⁻¹)

d = Light path length (1 cm)

v = Volume of enzyme sample (0.02 mL)

Reference Data



Preparation and storage

Product Code : rHK-93

Lyophilized powder (contains no ammonium sulfate)

.....below -20°C

OYC No./Package

OYC No. Package
46761993 1,000 units

(Research reagent use only, not for medical use.)



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