

HK (GRADE-I)

Hexokinase

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

from Yeast

Reaction Equation

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

Specification

Specific Activity

IU/mg protein

Specifications

>140 units

Contaminants

Phosphoglucose isomerase	<0.1%
Glutathione reductase	<0.05%
Myokinase	<0.01%
Phosphogluconate dehydrogenase	<0.005%
Phosphoglucomutase	<0.01%
Glucose-6-phosphate dehydrogenase	<0.01%
Creatine kinase	<0.005%
ATPase	<0.003%

Assay Procedure

I. Spectrophotometric Method

Wavelength ; 340 nm, Light path length ; 1 cm,
Temperature ; 25°C

Pipette the following reagents into a cuvette

2.40 mL	Triethanolamine-HCl-NaOH buffer (0.1 mol/L, pH 7.5) containing Glucose (50 mg/mL)
0.30 mL	MgCl ₂ (0.1 mol/L)
0.15 mL	ATP (10 mmol/L)
0.15 mL	NADP ⁺ (10 mmol/L)
0.01 mL	G-6-PDH (500 IU/mL)
0.02 mL	HK (about 3 IU/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
(revise the blank activation of HK (-))

V = Total volume of reaction mixture (3.03 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)

Preparation and storage

Product Code : HK-93

Lyophilized powder (contains no ammonium sulfate)

.....below -20°C

IU per 1 mg powder is approximately 100 units.

OYC No./Package

Lyophilized

OYC No.	Package
46560023	500 units
46561023	2,500 units
46562023	10,000 units
46563993	Bulk

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

