

ENZYMES

Hexokinase

ORIGIN *Yeast*

CAT# HEXO-70-1351

EC# 2.7.1.1

SPECIFICATIONS

Appearance	White to off white free flowing powder	
Activity	>100 U/mg powder at 25°C	
Specific Activity	>150 U/mg protein at 25°C	
Contaminants	Creatine phosphokinase (including AK)	<0.002%
	ATPase	<0.005%
	Phosphoglucose isomerase	<0.005%
	Glucose	<10 pmoles/unit

APPLICATION

Useful for enzymatic determination of glucose or creatine kinase activity.

UNIT DEFINITION

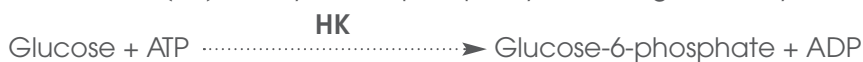
One unit of Hexokinase is defined as the amount of enzyme that will catalyse the production of 1.0 micromole of Glucose-6-Phosphate in 1 minute at 25°C under standard assay method conditions. Refer to Table 1 for guidance on factors to adjust units according to temperature of assay.

TABLE 1: TEMPERATURE FACTORS FOR UNIT CONVERSION

TEMPERATURE (°C)	FACTOR RELATIVE TO 25°C	
	G6PDH (YEAST)/NADP	G6PDH (LEU.MES)/NAD
25°C	1.00	1.00
30°C	1.29	1.32
37°C	1.77	1.86

ASSAY PRINCIPLE

Hexokinase (HK) catalyses the phosphorylation of glucose by ATP in the following reaction:



The production of NADH may be detected spectrophotometrically by the increase in absorbance observed at 340nm.

CHARACTERISTICS

Molecular Weight:	100kDa
Optimum pH (Fig. 1):	8.0 to 8.4 (0.1 M triethanolamine-NaCl buffer)
Optimum Temperature (Fig. 2)	48-50°C

FIG. 1 EFFECT OF pH ON HEXOKINASE ACTIVITY

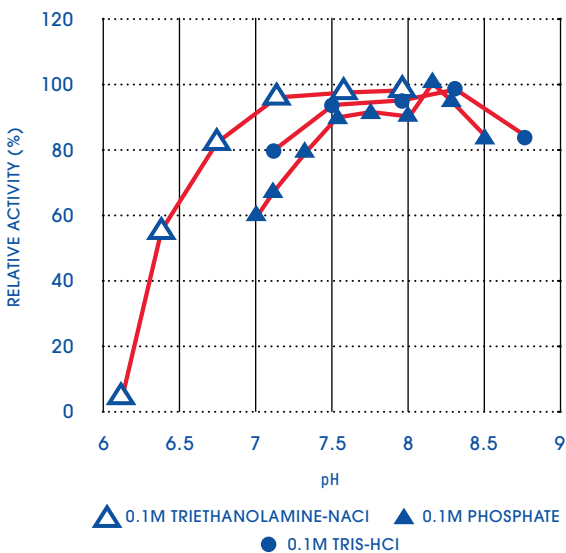
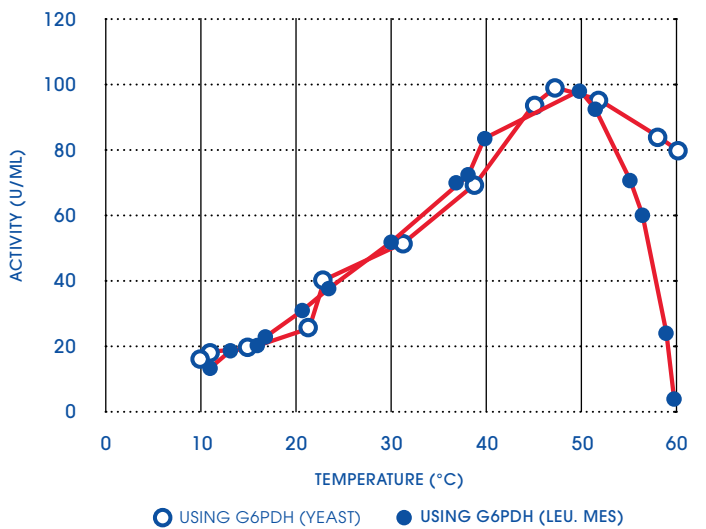


FIG. 2 EFFECT OF TEMPERATURE ON HEXOKINASE ACTIVITY



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