

Hexokinase

Catalogue No. HEXO-70-1351 and 70-1351-01

ORIGIN

Yeast

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	
o Creatine phosphokinase (including AK)	<0.002%
o Adenylate kinase (AK)	<0.002%
o ATPase	<0.005%
o Phosphoglucose isomerase	<0.005%
o 6-phosphogluconate dehydrogenase (with NAD as coenzyme)	<0.005%
o Glutathione reductase	<0.005%
o Glucose	<10 pmoles/unit

CHARACTERISTICS

Molecular weight	100KDa
Optimum pH (Fig. 1)	8.0 - 8.4 (0.1M triethanolamine-NaCl buffer)
Optimum temp (Fig. 2)	48 - 50°C
Storage stability	24 months from date of original QC analysis, desiccated at -20°C

TABLE 1 Relative Activity

Temperature (°C)	Relative Activity	
	G6PDH (yeast) / NADP	G6PDH (<i>Leu. Mes</i>) / NAD
25	1.00	1.00
30	1.29	1.32
37	1.77	1.86

FIG. 1 Effect of pH on Hexokinase activity

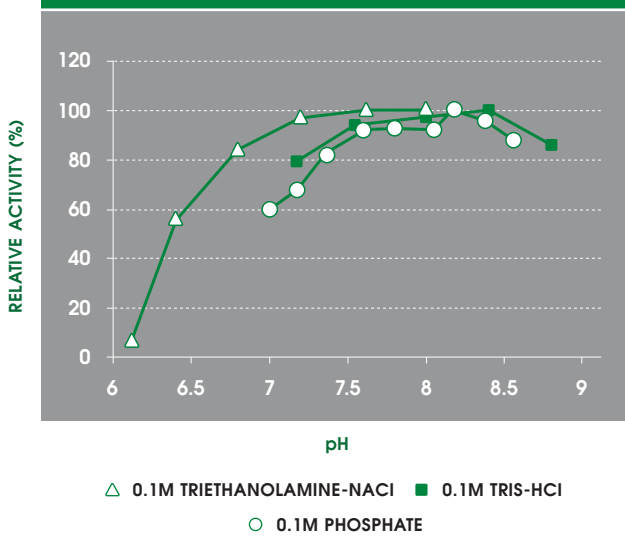
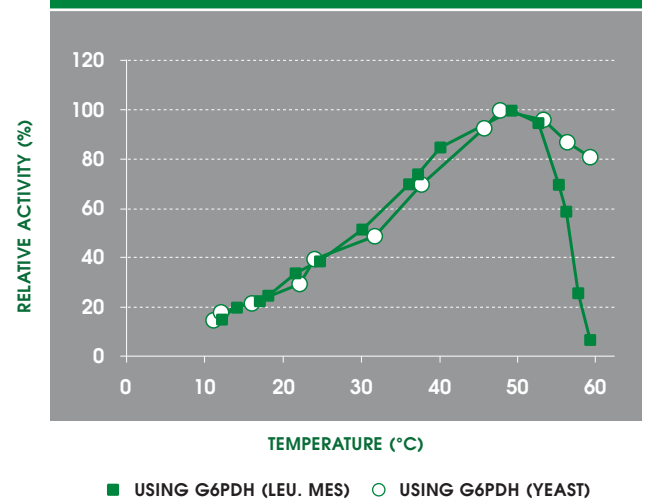
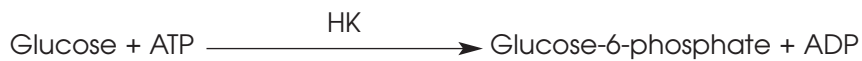


FIG. 2 Effect of Temperature on Hexokinase activity



ASSAY PRINCIPLE

Hexokinase 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.

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.

(See Analytical Method for full details)

NOTES:
