Native Bacillus sp. Hexokinase

Cat. No. NATE-1157

Lot. No. (See product label)

Introduction

Description	A hexokinase is an enzyme that phosphorylates hexoses (six-carbon sugars), forming hexose phosphate. In most organisms, glucose is the most important substrate of hexokinases, and glucose-6-phosphate the most important product. Hexokinase can transfer an inorganic phosphate group from ATP to a substrate. Hexokinases should not be confused with glucokinase, which is a specific isoform of hexokinase. While other hexokinases are capable of phosphorylating several hexoses, glucokinase acts with a 50-fold lower substrate affinity and its only hexose substrate is glucose.
Applications	This enzyme is useful for enzymatic determination of glucose or creatinine kinase activity when coupled with glucose–6–phosphate dehydrogenase.
Synonyms	hexokinase (phosphorylating); ATP-dependent hexokinase; glucose ATP phosphotransferase; hexokinase; ATP:D-hexose 6-phosphotransferase; EC 2.7.1.1

Product Information

Source	Bacillus sp.
Appearance	White amorphous powder, lyophilized
Form	Freeze dried powder
EC Number	EC 2.7.1.1
CAS No.	9001-51-8
Molecular Weight	68 kDa (gel filtration)
Activity	More than 250 U/mg solid
Contaminants	NADH oxidase < 0.001%; ATPase < 0.002%; Myokinase < 0.002%; Creatine phosphate < 0.002%; 6-phosphgluconate dehydrogenase < 0.002%; Glucose dehydrogenase < 0 .002%
Isoelectric point	5.64
pH Stability	7.0–8.5
Optimum pH	7.5–8.0
Thermal stability	Stable at 55°C and below
Optimum temperature	50°C
Michaelis Constant	Glucose 8.2 × 10-4M ATP 8.7 × 10-5M MgCl2 1.6 × 10-3M
Stabilizers	ATP, albumin, KCl, NaCl
Unit	One unit is defined as the amount of enzyme which generates 1 umole of NADPH per minute at 37ºC

Unit Definition	One unit is defined as the amount of enzyme which generates 1 μmole of NADPH per minute at 37°C under the conditions specified in the assay procedure.

Storage and Shipping Information

Storage	Storage at -20°C in the presence of a desiccant is recommended.