Creative Enzymes®

Native Rhodothermus obamensis Hexokinase

Cat. No. NATE-1156

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	Rhodothermus obamensis
Appearance	White to light grayish lyophilized powder.
Form	Freeze dried powder
EC Number	EC 2.7.1.1
CAS No.	9001-51-8
Molecular Weight	140 kDa (gel filtration)
Activity	100 - 400 U/mg
Contaminants	NADH oxidase < 0.001%; ATPase < 0.01%
pH Stability	5~10
Optimum pH	7.5–8.0
Thermal stability	Stable at 55°C and below
Michaelis Constant	Glucose 0.46 mM ATP 0.21 mM
Unit Definition	One unit is defined as the amount of enzyme which generates 1 μmole of NADPH per minute at 37ºC 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.