

Hexokinase from Yeast, chemically modified

Cat. No. NATE-0989

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	Use Hexokinase in diagnostic tests for blood glucose using the hexokinase method and for the determination of creatine kinase.
Synonyms	hexokinase type IV glucokinase; hexokinase D; hexokinase type IV; hexokinase (phosphorylating); ATP-dependent hexokinase; glucose ATP phosphotransferase; hexokinase; ATP:D-hexose 6-phosphotransferase

Product Information

Source	Yeast
Appearance	White lyophilizate
Molecular Weight	57 kD (SDS-PAGE)
Activity	> 40 U/mg lyophilizate
Contaminants	Alcohol dehydrogenase: <0.001 ATPase: <0.05 Creatine kinase: <0.001 G6P-DH: <0.005 Glutamate dehydrogenase: <0.05 Glutathione reductase: <0.005 Myokinase: <0.001 "NADH oxidase": <0.001 6-Phosphogluconate dehydrogenase: <0.001 Phosphoglucose isomerase: <0.002 Phosphoglucomutase: <0.02 Glucose: <0.3 µg/mg lyophilizate
Isoelectric point	4.5-5.0
pH Stability	5.0-9.0
Optimum pH	7.0-10.0
Michaelis Constant	Phosphate buffer, 0.1 mol/l, pH 7.0; +25°C: 3.05×10^{-4} mol/l Phosphate buffer, 0.1 mol/l, pH 7.4; +30°C: 1.90×10^{-4} mol/l Tea buffer, 0.1 mol/l, pH 7.6; +25°C: 2.30×10^{-4} mol/l
Specificity	Hexokinase phosphorylates D-glucose, D-fructose, D-mannose, D-glucosamin, 2-deoxyglucose. L-Arabinose, D-xylose, L-rhamnose, D-galactose, D-lactose, sucrose, maltose, trehalose, raffinose, N-acetyl glucosamine do not react. ATP can be partially replaced by other nucleotides.
Activators	Mg ²⁺ , catecholamines
Inhibitors	EDTA, SH-blocking compounds, sorbose-1-phosphate, polyphosphates, 6-deoxy-6-fluoroglucose, 2-C-hydroxymethylglucose, lyxose.

Storage and Shipping Information

Stability	At +2 to +8°C within specification range for 18 months. Store dry.
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At 12 to 18 °C within specification range for 18 months. Store dry.