

## Native Microorganism Hexokinase

Cat. No. DIA-202

Lot. No. (See product label)

### Introduction

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| <b>Description</b>  | 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. |
| <b>Applications</b> | The enzyme is useful for enzymatic determination of glucose, adenosine-5'-triphosphate (ATP) and creatine phosphokinase when coupled with glucose-6-phosphate dehydrogenase.   |
| <b>Synonyms</b>     | Hexokinase; EC 2.7.1.1; hexokinase type IV glucokinase; hexokinase D; hexokinase type IV; hexokinase (phosphorylating); ATP-dependent hexokinase; glucose ATP phosphotransferase; ATP: D-hexose 6-phosphotransferase   |

### Product Information

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| <b>Source</b>              | Microorganism  |
| <b>Appearance</b>          | White amorphous powder, lyophilized  |
| <b>EC Number</b>           | EC 2.7.1.1   |
| <b>CAS No.</b>             | 9001-51-8  |
| <b>Molecular Weight</b>    | approx. 82 kDa (by gel filtration)   |
| <b>Activity</b>            | Grade III 150U/mg-solid or more  |
| <b>Contaminants</b>        | Phosphoglucose isomerase < $1.0 \times 10^{-1}\%$ 6-Phosphogluconate dehydrogenase < $1.0 \times 10^{-2}\%$ Glucose-6-phosphate dehydrogenase < $1.0 \times 10^{-2}\%$ Myokinase < $1.0 \times 10^{-2}\%$ Glutathione reductase < $5.0 \times 10^{-1}\%$ |
| <b>Isoelectric point</b>   | $4.1 \pm 0.1$  |
| <b>pH Stability</b>        | pH 4.0-9.0 (25°C, 20hr)  |
| <b>Optimum pH</b>          | 8.0-9.0  |
| <b>Thermal stability</b>   | below 45°C (pH 7.0, 30min)   |
| <b>Optimum temperature</b> | 50°C   |
| <b>Michaelis Constant</b>  | $2.3 \times 10^{-4}$ M (D-Glucose), $7.7 \times 10^{-5}$ M (ATP)   |
| <b>Inhibitors</b>          | Metal ions, p-chloromercuribenzoate, iodoacetamide, SDS, etc   |

### Storage and Shipping Information

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| <b>Stability</b> | Store at -20° |
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