

## Glucokinase from Human, recombinant

Cat. No. NATE-1697

Lot. No. (See product label)

### Introduction

#### Description

Glucokinase (GK; EC 2.7.1.2) is an enzyme that facilitates phosphorylation of glucose to glucose-6-phosphate. Glucokinase occurs in cells in the liver, pancreas, gut, and brain of humans and most other vertebrates. In each of these organs it plays an important role in the regulation of carbohydrate metabolism by acting as a glucose sensor, triggering shifts in metabolism or cell function in response to rising or falling levels of glucose, such as occur after a meal or when fasting. Mutations of the gene for this enzyme can cause unusual forms of diabetes or hypoglycemia.

#### Synonyms

EC 2.7.1.2; glucokinase; glucokinase (phosphorylating); 9001-36-9; GCK; FGQTL3; GK; GLK; HHF3; HK4; HKIV; HXKP; LGLK; MODY2

### Product Information

**Species** Human Pancreatic

**Source** E. coli

**Form** Liquid

**EC Number** EC 2.7.1.2

**CAS No.** 9001-36-9

**Molecular Weight** 52.8 kDa

**Purity** 80% (densitometry)

**Activity** 303 pmol/min/ug

**Concentration** 1.0mg/mL

**Buffer** 50 mM potassium phosphate pH-7.4, 50 mM sodium chloride, 0.5 mM ethylenediaminetetraaceticacid, and 2.5% glycerol.

**Unit Definition** One unit is defined as the amount of enzyme that will convert 1 nmol of NADP to NADPH at 30°C. Assay conditions: 25 mM HEPES, pH 7.5, 2 mM MgCl<sub>2</sub>, 1.0 mM DTT, 0.5 mM NADP, 2.0 mM ATP, 25 mM glucose, 100 ug/ml BSA, 20 units/ml glucose 6-phosphate dehydrogenase, and 10 nM human pancreatic glucokinase at 30°C for 30 min.

### Storage and Shipping Information

**Storage** Stable >6 months at -80°C