

## Product datasheet

# Glucokinase Activity Assay Kit (Fluorometric) ab273303

[3 Images](#)

### Overview

<b>Product name</b>	Glucokinase Activity Assay Kit (Fluorometric)
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Cell Lysate, Tissue Homogenate
<b>Assay type</b>	Enzyme activity (quantitative)
<b>Assay duration</b>	Multiple steps standard assay
<b>Product overview</b>	<p>Glucokinase (GCK) Activity Assay Kit (Fluorometric) (ab273303) provides a quick and easy method for monitoring GCK activity in wide variety of samples.</p> <p>In this assay, GCK converts glucose into glucose-6- phosphate, which in turn is converted into a series of intermediates that reduce the Probe generating an intense fluorescence product (Ex/Em=535/587nm). The assay is simple, specific, sensitive and high-throughput adaptable and can detect as low as 2 <math>\mu</math>U of GCK activity.</p>
<b>Notes</b>	<p>This product is manufactured by BioVision, an Abcam company and was previously called K969 PicoProbe™ Glucokinase Activity Assay Kit (Fluorometric). K969-100 is the same size as the 100 test size of ab273303.</p>
<b>Platform</b>	Microplate

### Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

Components	100 tests
ATP	1 vial
Development Enzyme Mix IX	1 vial
DTT I	1 x 1ml
GCK Assay Buffer	1 x 25ml
GCK Developer Mix	1 vial

Components	100 tests
GCK Positive Control	1 vial
Glucose Substrate	1 x 1ml
NADPH Standard	1 x 1ml
PicoProbe I	1 x 0.4ml
Sample Background Reagent	1 x 1ml

**Function**

Catalyzes the initial step in utilization of glucose by the beta-cell and liver at physiological glucose concentration. Glucokinase has a high Km for glucose, and so it is effective only when glucose is abundant. The role of GCK is to provide G6P for the synthesis of glycogen. Pancreatic glucokinase plays an important role in modulating insulin secretion. Hepatic glucokinase helps to facilitate the uptake and conversion of glucose by acting as an insulin-sensitive determinant of hepatic glucose usage.

**Tissue specificity**

Isoform 1 is expressed in pancreas. Isoform 2 and isoform 3 is expressed in liver.

**Involvement in disease**

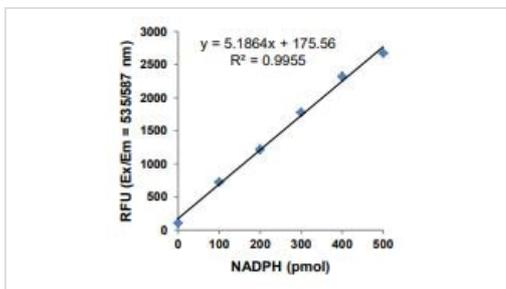
Defects in GCK are the cause of maturity-onset diabetes of the young type 2 (MODY2) [MIM:125851]; also shortened MODY-2. MODY is a form of diabetes that is characterized by an autosomal dominant mode of inheritance, onset in childhood or early adulthood (usually before 25 years of age), a primary defect in insulin secretion and frequent insulin-independence at the beginning of the disease.

Defects in GCK are the cause of familial hyperinsulinemic hypoglycemia type 3 (HHF3) [MIM:602485]; also known as persistent hyperinsulinemic hypoglycemia of infancy (PHHI) or congenital hyperinsulinism. HHF is the most common cause of persistent hypoglycemia in infancy. Unless early and aggressive intervention is undertaken, brain damage from recurrent episodes of hypoglycemia may occur.

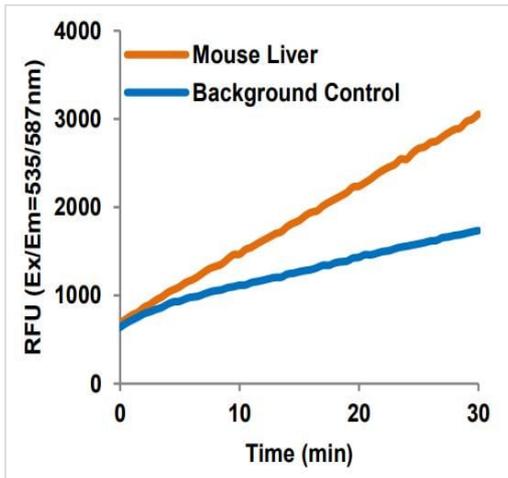
**Sequence similarities**

Belongs to the hexokinase family.

**Images**



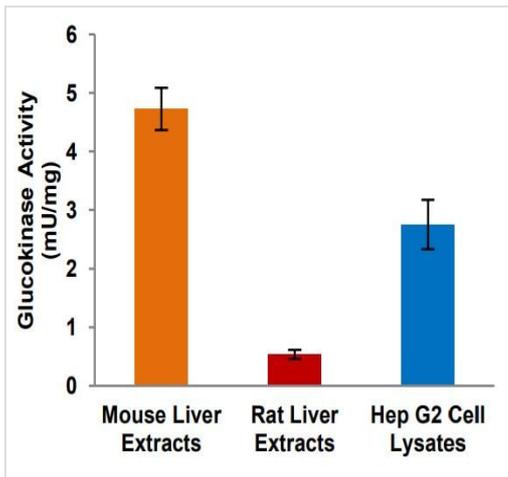
Glucokinase Activity Assay Kit (Fluorometric)



**Example data.**

GCK activity in mouse liver.

Example data



**Example data.**

Measurement of GCK activity in mouse liver tissue extracts (2 µg protein); Rat liver tissue extracts (5 µg protein) and HepG2 cell lysates (2 µg protein).

Example data

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