abcam

Product datasheet

Glucokinase Activity Assay Kit (Fluorometric) ab273303

3 Images

Overview

Product name	Glucokinase Activity Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Cell Lysate, Tissue Homogenate
Assay type	Enzyme activity (quantitative)
Assay duration	Multiple steps standard assay
Product overview	Glucokinase (GCK) Activity Assay Kit (Fluorometric) (ab273303) provides a quick and easy method for monitoring GCK activity in wide variety of samples. 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 µU of GCK activity.
Notes	Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances. It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.
Platform	Microplate

Properties

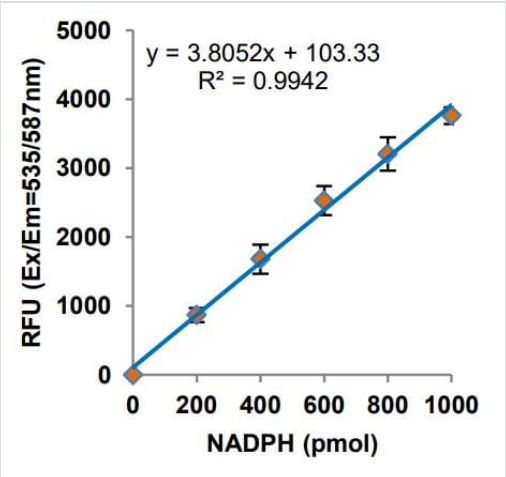
Storage instructions	Store at -20°C. Please refer to protocols.

Components	**100 tests**
ATP (Lyophilized)	1 vial
DTT (1 M)	1 x 1ml
GCK Assay Buffer	1 x 25ml
GCK Developer (Lyophilized)	1 vial

Components	100 tests
GCK Enzyme Mix (Lyophilized)	1 vial
GCK Positive Control (Lyophilized)	1 vial
GCK Substrate	1 x 1ml
NADPH Standard (200 nmol) (Lyophilized)	1 x 1ml
Probe (in DMSO)	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



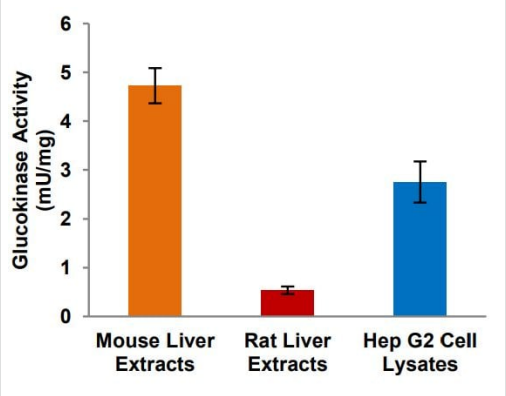
Example data

Typical standard curve – data provided **for demonstration purposes only**. A new standard curve must be generated for each assay performed.

Example data

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).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet

- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors