abcam

Product datasheet

Human Glucokinase ELISA Kit (GCK) ab125967

1 Image

Overview

Product name Human Glucokinase ELISA Kit (GCK)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall				5.5%

Inter-assay

Sample	n	Mean	SD	CV%
Overall				9.8%

Sample type Cell culture supernatant, Serum, Plasma, Tissue

Assay type Sandwich (quantitative)

Sensitivity 0.29 ng/ml

Range 0.78 ng/ml - 12.5 ng/ml

Recovery 96 %

Assay time 4h 00m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Human

Product overview Abcam's Glucokinase (GCK) Human *in vitro* ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Human GCK in plasma, serum, and cell culture supernatants.

A Glucokinase specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently a Glucokinase specific biotinylated detection antibody is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Conjugate is added and unbound conjugates are washed away with wash buffer. TMB is then used to visualize Streptavidin-Peroxidase enzymatic reaction. TMB is catalyzed by Streptavidin-Peroxidase to produce a blue color product that changes into yellow after adding acidic stop solution. The density of yellow coloration is directly proportional to the amount of Glucokinase captured in plate.

The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

Platform Microplate

Properties

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

Components	1 x 96 tests
100X Streptavidin-Peroxidase Conjugate	1 x 80µl
10X Diluent N Concentrate	1 x 30ml
1X Standard Diluent	1 x 2ml
20X Wash Buffer Concentrate	2 x 30ml
70X Biotinylated Human Glucokinase Antibody	1 x 90µl
Chromogen Substrate	1 x 7ml
Glucokinase Microplate (12 x 8 well strips)	1 unit
Glucokinase Standard	1 vial
Sealing Tapes	3 units
Stop Solution	1 x 11ml

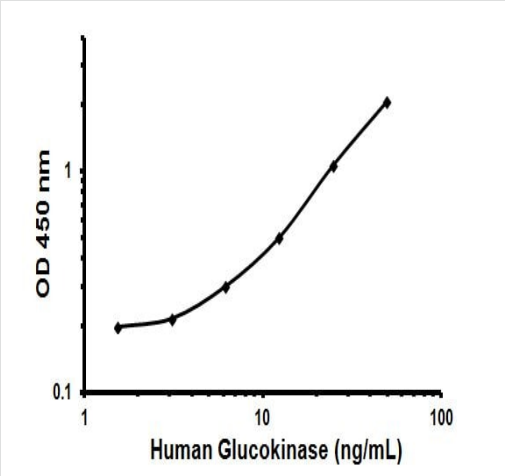
Function Catalyzes the initial step in utilization of glucose by the beta-cell and liver at physiological glucose concentration. Glucokinase has a high Km for glucose, and so it is effective only when glucose is abundant. The role of GCK is to provide G6P for the synthesis of glycogen. Pancreatic glucokinase 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



Typical Standard Curve

Representative Standard Curve using ab125967

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