Datasheet for ABIN7317079

GCK Protein

Go to Product page

1 Image

Overview

Quantity:	50 µg
Target:	GCK
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant

Product Details

Purpose:	Recombinant Human Glucokinase/GCK Protein
Sequence:	Leu 2-Gln 465
Characteristics:	A DNA sequence encoding the human glucokinase isoform 1 (NP_000153.1) (Leu 2-Gln 465) was expressed, fused with two additional amino acids (Gly & Pro) at the N-terminus.
Purity:	> 95 % as determined by reducing SDS-PAGE.

Target Details

Target:	GCK
Alternative Name:	Glucokinase/GCK (GCK Products)
Background:	Background: Glucokinase belongs to the bacterial glucokinase family. Hexokinases phosphorylate glucose to produce glucose-6-phosphate, the first step in most glucose metabolism pathways. Alternative splicing of this gene results in three tissue-specific forms of glucokinase, one found in pancreatic islet beta cells and two found in liver. The protein localizes to the outer membrane of mitochondria. In contrast to other forms of hexokinase, this enzyme

Target Details

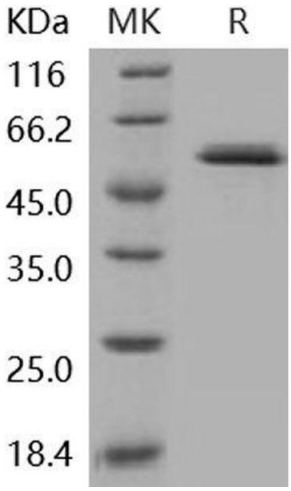
	is not inhibited by its product glucose-6-phosphate but remains active while glucose is abundant. Mutations in this gene have been associated with non-insulin dependent diabetes mellitus (NIDDM), maturity onset diabetes of the young, type 2 (MODY2) and persistent hyperinsulinemic hypoglycemia of infancy (PHHI). It can 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. It has a pivotal role as glucose sensor of the pancreatic beta-cells. Glucokinase explains the capacity, hexose specificity, affinities, sigmoidicity, and anomeric preference of pancreatic islet glycolysis, and because stimulation of glucose metabolism is a prerequisite of glucose stimulation of insulin release, glucokinase also explains many characteristics of this beta-cell function. Glucokinase of the beta-cell is induced or activated by glucose in contrast to liver glucokinase, which is regulated by insulin. Tissue-specific regulation corresponds with observations that liver and pancreatic beta-cell glucokinase are structurally distinct. Glucokinase could play a glucose-sensor role in hepatocytes as well, and certain forms of diabetes mellitus might be due to glucokinase deficiencies in pancreatic beta-cells, hepatocytes, or both. Synonym: FGQTL3,GK,GLK,HHF3,HK4,HKIV,HXKP,LGLK,MODY2
Molecular Weight:	52.2 kDa
NCBI Accession:	NP_000153
Pathways:	MAPK Signaling, Positive Regulation of Peptide Hormone Secretion, Carbohydrate Homeostasis , Cellular Glucan Metabolic Process, Regulation of Carbohydrate Metabolic Process

Application Details

Restrictions:	For Research Use only

Handling

Format:	Frozen, Liquid
Buffer:	Supplied as sterile 20 mM Tris, 10 % Glycerol, pH 8.0
Storage:	-20 °C
Storage Comment:	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.



Western Blotting

Image 1.

