Best Tools for immunology Research

GCK Monoclonal Antibody

Catalog No :	YM0302
Reactivity :	Human
Applications :	WB;ELISA
Target :	GCK
Fields :	>>Glycolysis / Gluconeogenesis;>>Galactose metabolism;>>Starch and sucrose metabolism;>>Amino sugar and nucleotide sugar metabolism;>>Neomycin, kanamycin and gentamicin biosynthesis;>>Metabolic pathways;>>Carbon metabolism;>>Biosynthesis of nucleotide sugars;>>Insulin signaling pathway;>>Insulin secretion;>>Prolactin signaling pathway;>>Glucagon signaling pathway;>>Type II diabetes mellitus;>>Maturity onset diabetes of the young;>>Central carbon metabolism in cancer
Gene Name :	GCK
Protein Name :	Glucokinase
Human Gene Id :	2645
Human Swiss Prot No :	P35557
Mouse Swiss Prot No :	P52792
Immunogen :	Purified recombinant fragment of human GCK expressed in E. Coli.
Specificity :	GCK Monoclonal Antibody detects endogenous levels of GCK protein.
Formulation :	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source :	Monoclonal, Mouse
Dilution :	WB 1:500 - 1:2000. ELISA: 1:10000. Not yet tested in other applications.
Purification :	Affinity purification

Storage Stability : -15°C to -25°C/1 year(Do not lower than -25°C)

Molecularweight : 52kD

Cell Pathway : Glycolysis / Gluconeogenesis;Galactose metabolism;Starch and sucrose metabolism;Amino sugar and nucleotide sugar metabolism;Insulin_Receptor;Type II diabetes mellitus;Maturity onset diabetes of the yo

P References :
1. Mol Endocrinol. 2009 Dec;23(12):1983-9.
2. Int J Mol Med. 2009 Aug;24(2):233-46.

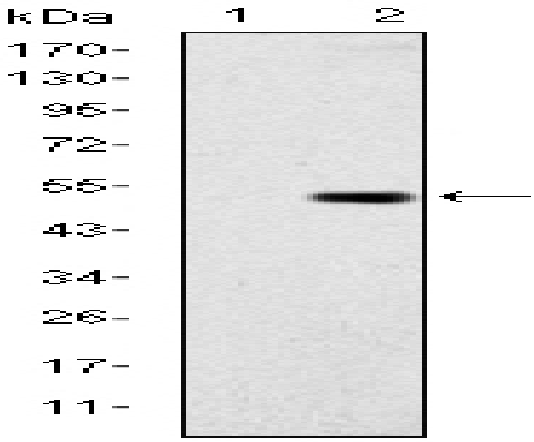
Background : Hexokinases phosphorylate glucose to produce glucose-6-phosphate, the first step in most glucose metabolism pathways. Alternative splicing of this gene results in three tissue-specific forms of glucokinase, one found in pancreatic islet beta cells and two found in liver. The protein localizes to the outer membrane of mitochondria. In contrast to other forms of hexokinase, this enzyme 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). [provided by RefSeq, Apr 2009],

Function : catalytic activity:ATP + D-glucose = ADP + D-glucose 6-phosphate.,disease:Defects in GCK are the cause of familial hyperinsulinemic hypoglycemia type 3 (HHF3) [MIM:602485]. 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.,disease:Defects in GCK are the cause of maturity onset diabetes of the young type 2 (MODY2) [MIM:125851]; also shortened MODY-2. MODY [MIM:606391] is a form of diabetes mellitus characterized by autosomal dominant transmission and early age of onset. Mutations in GCK result in mild chronic hyperglycemia due to reduced pancreatic beta cell responsiveness to glucose, decreased net accumulation of hepatic glycogen and increased hepatic gluconeogenesis following meals.,enzyme regulation:The use of alternative promoters apparently enables

Subcellular Location : Cytoplasm . Nucleus . Mitochondrion . Under low glucose concentrations, GCK associates with GCKR and the inactive complex is recruited to the hepatocyte nucleus. .

Expression : Lung,Pancreas,Placenta,

Products Images



Western Blot analysis using GCK Monoclonal Antibody against HEK293 (1) and GCK-hIgGFc transfected HEK293 (2) cell lysate.