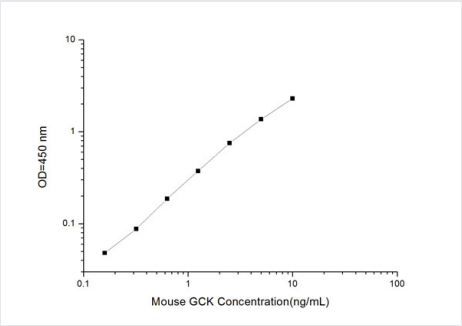
GCK ELISA Kit for Mouse

PRODUCT OVERVIEW

Product Name	GCK, ELISA Kit
Full Product Name	Mouse GCK (Glucokinase) ELISA Kit
Product Gene Name	GCK elisa kit
Species Reactivity	Mouse
Assay Type	Sandwich
Samples	Serum, Plasma, Biological Fluids
Detection Range	0.156-10ng/mL
Sensitivity	Min: 0.094ng/mL; Max: 10ng/mL
Specificity	This assay has high sensitivity and excellent specificity for detection of Mouse GCK. No significant cross-reactivity or interference between Mouse GCK and analogues was observed. Note: Limited by current skills and knowledge, it is impossible for us to complete the cross- reactivity detection between Mouse GCK and all the analogues, therefore, cross reaction may still exist.
Preparation and Storage	Store at 4 degree C.
Molecular Weight	52,035 Da
OMIM	125851
3D Structure	ModBase 3D Structure for P35557
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for GCK elisa kit	**Description:** The kit is a sandwich enzyme immunoassay for in vitro quantitative measurement of GCK in Mouse serum, plasma and other biological fluids **Principle of the Assay:** This ELISA kit uses Sandwich-ELISA as the method. The micro ELISA plate provided in this kit has been pre-coated with an antibody specific to Mouse GCK. Standards or samples are added to the appropriate micro ELISA plate wells and bound by the specific antibody. Then a biotinylated detection antibody specific for Mouse GCK and Avidin-Horseradish Peroxidase (HRP) conjugate is added to each micro plate well successively and incubated. Free components are washed away. The substrate solution is added to each well. Only those wells that contain Mouse GCK, biotinylated detection antibody and Avidin-HRP conjugate will appear blue in color. The enzyme-substrate reaction is terminated by the addition of a sulphuric acid solution and the color turns yellow. The optical density (OD) is measured spectrophotometrically at a wavelength of 450 nm +/- 2 nm. The OD value is proportional to the concentration of Mouse GCK. You can calculate the concentration of Mouse GCK in the samples by comparing the OD of the samples to the standard curve.
Other Notes	Small volumes of GCK elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for GCK purchase	MBS2510522 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the GCK, ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing GCK. The ELISA analytical biochemical technique of the MBS2510522 kit is based on GCK antibody-GCK antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect GCK antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, GCK. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).



Typical Testing Data/Standard Curve (for reference only) of GCK elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GCK. It may not necessarily be applicable to this product.

NCBI GI #	15967161
NCBI GeneID	2645
NCBI Accession #	NP_277043.1
UniProt Primary Accession #	P35557
UniProt Secondary Accession #	Q05810; A4D2J2; A4D2J3
UniProt Related Accession #	P35557
GenBank Nucleotide #	NM_033508.1
NCBI Official Full Name	glucokinase isoform 3
NCBI Official Synonym Full Names	glucokinase (hexokinase 4)
NCBI Official Symbol	GCK
NCBI Official Synonym Symbols	GK; GLK; HK4; HHF3; HKIV; HXKP; LGLK; MODY2; FGQTL3
UniProt Protein Name	Glucokinase
UniProt Synonym Protein Names	Hexokinase type IV; HK IV; Hexokinase-4; HK4; Hexokinase-D
Protein Family	Glycerate 2-kinase
UniProt Gene Name	GCK
UniProt Synonym Gene Names	HK IV; HK4
UniProt Entry Name	HXK4_HUMAN
NCBI Protein Information	glucokinase; ATP:D-hexose 6-phosphotransferase; HK IV; hexokinase D, pancreatic isozyme; hexokinase type IV; hexokinase-4; hexokinase-D
NCBI Summary for GCK	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]

UniProt Comments for GCK	GK: a glycolytic enzyme that catalyzes glucose metabolism in the liver and pancreatic beta cells. Acts as a ""glucose sensor"" in beta cells. The first and rate-limiting step in glycosis, a pathway that produces energy in the form of ATP from glucose. Glucokinase traps glucose inside the cell by catalyzing its phosphorylation to produce glucose-6-phosphate. Has a lower affinity for glucose than the three other isozymes of hexokinase, allowing other organs such as the brain and muscles to have first call on glucose when its supply is limited. Unlike other hexokinases, glucokinase is not inhibited by glucose-6-phosphate. Glucokinase is found in the outer membrane compartment of mitochondria. May bind VDAC, suppressing mitochondrial function. Glucokinase transcription is induced by insulin, perhaps via the activation of Stat 5B. Mutant glucokinase causes a rare form of diabetes and may also play a role in type 2 diabetes. Three splice variant isoforms of human glucokinase have been described. Protein type: Mitochondrial; Carbohydrate Metabolism - starch and sucrose; Carbohydrate Metabolism - glycolysis and gluconeogenesis; EC 2.7.1.2; Kinase, other; Carbohydrate Metabolism - galactose; Carbohydrate Metabolism - amino sugar and nucleotide sugar Chromosomal Location of Human Ortholog: 7p15.3-p15.1 Cellular Component: nucleoplasm; mitochondrion; actin filament; cytosol; basal cortex; secretory granule Molecular Function: protein binding; mannokinase activity; magnesium ion binding; fructokinase activity; glucokinase activity; ADP binding; protein phosphatase binding; ATP binding; glucose binding Biological Process: glucose 6-phosphate metabolic process; positive regulation of glycogen biosynthetic process; lipid homeostasis; pathogenesis; glucose transport; glucose homeostasis; NADP metabolic process; cellular response to glucose starvation; elevation of cytosolic calcium ion concentration; detection of glucose; regulation of glycolysis; negative regulation of gluconeogenesis; transmembrane transport; second-messenger-mediated signaling; glycogen biosynthetic process; glycolysis; regulation of potassium ion transport; positive regulation of insulin secretion; glucose metabolic process; endocrine pancreas development; fructose 2,6-bisphosphate metabolic process; cellular response to insulin stimulus; hexose transport; carbohydrate phosphorylation; carbohydrate metabolic process; positive regulation of glycolysis; negative regulation of epinephrine secretion; cell glucose homeostasis; regulation of insulin secretion; positive regulation of phosphorylation Disease: Hyperinsulinemic Hypoglycemia, Familial, 3; Diabetes Mellitus, Permanent Neonatal; Maturity-onset Diabetes Of The Young, Type 2; Diabetes Mellitus, Noninsulin-dependent
Research Articles on GCK	**1.** meta-analysis indicated that the risk allele of the GCK -30G>A polymorphism may increase gestational diabetes mellitus and type 2 diabetes mellitus risk in whites, whereas additional studies are needed to confirm the effect of this polymorphism on both diseases in Asians and Africans
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