Active Recombinant Human GCK, His-tagged

Cat. No. GCK-200H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	The recombinant Human GCK, His-tagged protein(isoform 3) was expressed in E. coli and purified by affinity chromatography in combination with FPLC columns.
Species	Human
Source	E.coli
Description	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).
Form	The protein is in 20mM Tris-HCl pH7.9,100mM NaCl, 0.2mM EDTA, 1mM DTT and 20% glycerol.
Bio-activity	1 unit equals 1 nanogram of purified protein.
Molecular Mass	53.0 kDa
AA Sequence	MPRPRSQLPQ PNSQVEQILA EFQLQEEDLK KVMRRMQKEM DRGLRLETHE

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	EASVKMLPTY VRSTPEGSEV GDFLSLDLGG TNFRVMLVKV GEGEEGQWSV KTKHQMYSIP EDAMTGTAEM LFDYISECIS DFLDKHQMKH KKLPLGFTFS FPVRHEDIDK GILLNWTKGF KASGAEGNNV VGLLRDAIKR RGDFEMDVVA MVNDTVATMI SCYYEDHQCE VGMIVGTGCN ACYMEEMQNV ELVEGDEGRM CVNTEWGAFG DSGELDEFLL EYDRLVDESS ANPGQQLYEK LIGGKYMGEL VRLVLLRLVD ENLLFHGEAS EQLRTRGAFE TRFVSQVESD TGDRKQIYNI LSTLGLRPST TDCDIVRRAC ESVSTRAAHM CSAGLAGVIN RMRESRSEDV MRITVGVDGS VYKLHPSFKE RFHASVRRLT PSCEITFIES EEGSGRGAAL VSAVACKKAC MLGQ
Purity	Greater than 95% as determined by SDS-PAGE.
Applications	Can be used for the phosphorylation of Glucose, assay development.
Storage	Stored at -70°C before use. Avoid repeated freeze thaw cycles.

GENE INFORMATION

Gene Name	GCK glucokinase (hexokinase 4) [Homo sapiens]
Official Symbol	GCK
Synonyms	GCK; glucokinase (hexokinase 4); maturity onset diabetes of the young 2 , MODY2; glucokinase; HK4; HK IV; hexokinase-4; hexokinase-D; hexokinase type IV; hexokinase D, pancreatic isozyme; ATP:D-hexose 6-phosphotransferase; GK; GLK; HHF3; HKIV; HXKP; LGLK; MODY2; FGQTL3;
Gene ID	2645
mRNA Refseq	NM_033508

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Protein Refseq	NP_000153
MIM	138079
UniProt ID	P35557
Chromosome Location	7p15.3-p15.1
Pathway	Amino sugar and nucleotide sugar metabolism, organism-specific biosystem; Amino sugar and nucleotide sugar metabolism, conserved biosystem; Butirosin and neomycin biosynthesis, organism-specific biosystem; Butirosin and neomycin biosynthesis, conserved biosystem; Developmental Biology, organism-specific biosystem; FOXA2 and FOXA3 transcription factor networks, organism-specific biosystem; GDP-glucose biosynthesis, organism-specific biosystem;
Function	ATP binding; glucokinase activity; glucose binding; kinase activity; nucleotide binding; protein binding; transferase activity;

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