Active Recombinant Human GCK, His-tagged

Cat. No. GCK-199H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	The recombinant Human GCK, His-tagged protein(isoform 2) 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	53.1 kDa.
AA Sequence	MAMDVTRSQA QTALTLVEQI LAEFQLQEED LKKVMRRMQK EMDRGLRLET

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	HEEASVKMLP TYVRSTPEGS EVGDFLSLDL GGTNFRVMLV KVGEGEEGQW SVKTKHQMYS IPEDAMTGTA EMLFDYISEC ISDFLDKHQM KHKKLPLGFT FSFPVRHEDI DKGILLNWTK GFKASGAEGN NVVGLLRDAI KRRGDFEMDV VAMVNDTVAT MISCYYEDHQ CEVGMIVGTG CNACYMEEMQ NVELVEGDEG RMCVNTEWGA FGDSGELDEF LLEYDRLVDE SSANPGQQLY EKLIGGKYMG ELVRLVLLRL VDENLLFHGE ASEQLRTRGA FETRFVSQVE SDTGDRKQIY NILSTLGLRP STTDCDIVRR ACESVSTRAA HMCSAGLAGV INRMRESRSE DVMRITVGVD GSVYKLHPSF KERFHASVRR LTPSCEITFI ESEEGSGRGA ALVSAVACKK ACMLGQ
Purity	Greater than 95% as determined by SDS-PAGE.
Applications	It can be used for the phosphorylation of glucose.
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_033507

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Protein Refseq	NP_277042
MIM	603261
UniProt ID	P78356
Chromosome Location	17q21.2
Pathway	3-phosphoinositide biosynthesis, organism-specific biosystem; B Cell Receptor Signaling Pathway, organism-specific biosystem; D-myo-inositol (1,4,5)-trisphosphate biosynthesis, organism-specific biosystem; Inositol phosphate metabolism, organism-specific biosystem; Inositol phosphate metabolism, conserved biosystem; Phosphatidylinositol signaling system, organism-specific biosystem; Phosphatidylinositol signaling system, conserved biosystem;
Function	1-phosphatidylinositol-4-phosphate 5-kinase activity; 1-phosphatidylinositol-5-phosphate 4-kinase activity; ATP binding; nucleotide binding; receptor signaling protein activity; transferase activity;

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