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**Product Data Sheet**


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Product Name: GCK Human  
 Cat. No.: GP22522  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Glucokinase; EC 2.7.1.2; Hexokinase-4; Hexokinase type IV; HK IV; HK4; Hexokinase-D; GCK; GK; GLK; HHF3; HKIV; HXKP; MODY2.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MLDDRARMEA AKKEKVEQIL AEFQLQEEDL KKVMRRMQKE MDRGLRLETH EEASVKMLPT YVRSTPEGSE VGDFLSLDLG GTNFRVMLVK VGEGEEGQWS VKTKHQMYSI PEDAMTGTAE MLFDYISECI SDFLDKHQMK HKKLPLGFTF SFPVRHEDID KGILLNWTKG FKASGAEGNN VVGLLRDAIK RRGDFEMDVV AMVNDTVATM ISCYEDHQC EVGMIVGTGC NACYMEEMQN VELVEGDEGR MCVNTEWGAF GDSGELDEFL LEYDRLVDES SANPGQQLYE KLIGGKYMGE LVRLVLLRLV DENLLFHGEA SEQLRTRGAF ETRFVSQVES DTGDRKQIYN ILSTLGLRPS TTDCDIVRRA CESVSTRAAH MCSAGLAGVI NRMRESRSED VMRITVGVDG SVYKLHPSFK ERFHASVRRRL TPSCEITFIE SEEGSGRGAA LVSAVACKKA CMLGQ.		
Formulation	The protein (1mg/ml) contains 20mM Tris-HCl pH-8.0 and 10% glycerol.		

**Introduction**

Hexokinases phosphorylate glucose to produce glucose-6-phosphate, thus committing glucose to the glycolytic pathway. Alternative splicing of Glucokinase 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, HK4 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).

**Stability**

**Caution: Product has not been fully validated for medical applications. For research use only.**

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Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

### Background

Glucokinase Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain (aa 1-465) fused to a 20aa His tag at the N-terminal encoding the sequence of 485 amino acids and having a molecular mass of 54.3 kDa. HK4 is purified by proprietary chromatographic techniques.

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