
Product Data Sheet

Product Name: GCK Human, Active

Cat. No.: GP22523

Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Glucokinase; Glucokinase (Hexokinase 4); Hexokinase Type IV; HK IV; HK4; Maturity Onset Diabetes of The Young 2; ATP:D-Hexose 6-Phosphotransferase; Hexokinase D; Pancreatic Isozyme; Hexokinase-4; Hexokinase-D; Hexokinase 4.		
Amino Acid Sequence	<p>MGSSHHHHHH SSGLVPRGSH 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.</p>		
Formulation	GCK protein solution (1mg/ml) contains 20 mM Tris-HCl buffer (pH 8.0) and 10% glycerol.		

Introduction

GCK is an enzyme that expedite the formation of glucose-6-phosphate for glucose by phosphorylation. Humans and other vertebrates have GCK in the cells of the pancreas and liver. In both organs, the enzyme has an important role in carbohydrate metabolism regulation by sensing sugar levels and acting according to the change in glucose levels, that can rise after a meal or fall during fasting. Mutations in the gene that codes for this enzyme can cause hypoglycemia or diabetes..

Biological Activity

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

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Specific activity is > 2,000 pmol/min/ug. One unit will convert 1 pmoles of D-Glucose to D-Glucose-6-phosphate per minute at pH8.0 at 37C.

Stability

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). Avoid multiple freeze-thaw cycles.

Background

GCK Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 485 amino acids (1-465 a.a) and having a molecular mass of 54.3kDa. GCK is fused to a 20 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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