

Recombinant Human Glucokinase (Hexokinase 4), His-tagged

Cat. No. GCK-196H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant human Hexokinase4, fused to His-tag at N-terminus, was expressed in *E.coli* and purified by using conventional chromatography techniques. MW = 54.3kDa (485aa).

Species Human

Source E.coli

Description Hexokinase is the first enzyme in the glycolytic pathway, catalyzing the transfer of a phosphoryl group from ATP to glucose to form glucose-6-phosphate and ADP. In mammals, four distinct enzymes-types 1 to 4 hexokinases-have been identified. The enzyme is found in most cells, but there is tissue specificity for the particular type of hexokinase. Hexokinase4 is found in the liver and pancreatic beta-cells, where it is controlled by insulin (activation) and glucagon (inhibition). In pancreatic beta-cells, type IV enzyme acts as a glucose sensor to modify insulin secretion. Hexokinase4 is commonly called 'glucokinase'.

Amino Acid Sequence MGSSHHHHHH SSSLVPRGSH 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

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ETRFVSQVES DTGDRKQIYN ILSTLGLRPS TTDCDIVRRA CESVSTRAAH
MCSAGLAGVI NRMRESRSED VMRITVGVDG SVYKLHPSFK ERFHASVRRL
TPSCEITFIE SEEGSGRGAA LVSAVACKKA CMLGQ.

Form Liquid. In 20 mM Tris-HCl buffer (pH 8.0) containing 10% glycerol.

Purity > 95% by SDS – PAGE.

Concentration 1 mg/ml (determined by Bradford assay).

Storage Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name [GCK glucokinase \(hexokinase 4\) \[Homo sapiens \]](#)

Synonyms GCK; glucokinase (hexokinase 4); GK; GLK; HK4; HHF3; HKIV; HXKP; MODY2; Hexokinase type IV; HK IV; Hexokinase-D; EC 2.7.1.2; Hexokinase-4; OTTHUMP00000024521; OTTHUMP00000159308; D-hexose 6-phosphotransferase; Hexokinase type IV; hexokinase D, pancreatic isozyme; maturity onset diabetes of the young 2

Gene ID [2465](#)

mRNA Refseq [NM_000162](#)

Protein Refseq [NP_000153](#)

MIM [138079](#)

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UniProt ID	P35557
Chromosome Location	7p15.3-p15.1
Pathway	Amino sugar and nucleotide sugar metabolism; Galactose metabolism; Glycolysis / Gluconeogenesis; Insulin signaling pathway; Maturity onset diabetes of the young; Metabolic pathways; Starch and sucrose metabolism; Streptomycin biosynthesis; Type II diabetes mellitus; Diabetes pathways; Integration of energy metabolism; Integration of energy metabolism; Metabolism of carbohydrates; Regulation of beta-cell development
Function	ATP binding; glucokinase activity; glucose binding; kinase activity; nucleotide binding; protein binding; transferase activity

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