Recombinant human Hexokinase 4 protein

Catalog Number: ATGP3845

PRODUCT INFORMATION

Expression system
E.coli

Domain
1-465aa

UniProt No.
P35557

NCBI Accession No.
NP_000153

Alternative Names
GCK, glucokinase, MODY2, Maturity onset diabetes of the young 2, Hexokinase 4, HK4, Hexokinase type IV, HK IV, Hexokinase-D

PRODUCT SPECIFICATION

Molecular Weight
54.3 kDa (485aa)

Concentration
1mg/ml (determined by Bradford assay)

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

Purity
> 95% by SDS-PAGE

Endotoxin level
< 1 EU per 1ug of protein (determined by LAL method)

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

Tag
His-Tag

Application
SDS-PAGE, Enzyme Activity

Storage Condition
Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

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BACKGROUND

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. Hexokinase 4 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. Hexokinase 4 is commonly called glucokinase. Recombinant human Hexokinase 4, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.

Amino acid Sequence

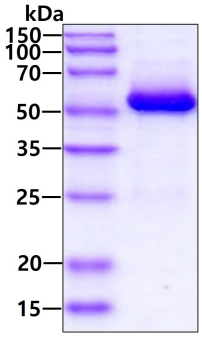
<MGSSHHHHHH SSGLVPRGSH> MLDDRARMEA AKKEKVEQIL AEFQLQEEDL KKVMRRMQKE MDRGLRLETH EEASVKMLPT YVRSTPEGSE VGDFLSLDLG GTNFRVMLVK VGEGEEGQWS VKTKHQMYSI PEDAMTGTAE MLFDYISECI SDFLDKHQMK HKKLPLGFTF SFPVRHEDID KGILLNWTKG FKASGAEGNN VVGLLRDAIK RRGDFEMDVV AMVNDTVATM ISCYYEDHQC EVGMIVGTGC NACYMEEMQN VELVEGDEGR MCVNTEWGAF GDSGELDEFL LEYDRLVDES SANPGQQLYE KLIGGKYMGE LVRLVLLRLV DENLLFHGEA SEQLRTRGAF ETRFVSQVES DTGDRKQIYN ILSTLGLRPS TTDCDIVRRA CESVSTRAAH MCSAGLAGVI NRMRESRSED VMRITVGVDG SVYKLHPSFK ERFHASVRRL TPSCEITFIE SEEGSGRGAA LVSAVACKKA CMLGQ

General References

Jon E. et al.,(2003) J.Exp Biology. 206: 2049-2057

DATA

SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.