



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human KHK Protein  
**Catalog Number:** hRP-0896  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human KHK gene encodes ketohexokinase that catalyzes conversion of fructose to fructose-1-phosphate. The product of this gene is the first enzyme with a specialized pathway that catabolizes dietary fructose, which associated with many metabolic states, such as glucose intolerance, hyperlipidaemia, obesity, insulin resistance et al.

Full-length mature human KHK ( 298aa, Isoform-a ) gene was constructed with 15 aa N-terminal T7 tag and expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** KHK  
**Accession Number:** NP\_000212  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References

Trinh,C.H., et al., *Structures of alternatively spliced isoforms of human ketohexokinase*. Acta Crystallogr. D Biol. Crystallogr. 65 (PT 3), 201-211 (2009)

Cirillo,P., et al., *Ketohexokinase-dependent metabolism of fructose induces proinflammatory mediators in proximal tubular cells*. J. Am. Soc. Nephrol. 20 (3), 545-553



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(2009)

Hwa, J.S., et al., *The expression of ketohexokinase is diminished in human clear cell type of renal cell carcinoma*. *Proteomics* 6 (3), 1077-1084 (2006)

## **Applications**

1. May be used for in vitro KHK mediated fructose metabolism regulation study with “ProFectin” based intracellular delivery of this protein.
2. As soluble / native protein, may be used as enzymatic substrate protein for kinase and ubiquitin assay development.
3. May be used for mapping KHK protein-protein interaction.
4. Potential diagnostic biomarker for renal cell carcinoma.
5. May be used as antigen for specific antibody development.

## **Quality Control**

1. Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGEFMEEKQILCVGLVVLVDVLSLVDPKYPKEDSEIRCLSQRWQRGGNASNSCTV  
LSLLGAPCAFMGSMAPGHVADFVLDLRRYSVDLRYTVFQTTGSPVIATVIINEASGSRTILYY  
DRSLPDVSATDFEKVDLTQFKWIHIEGRNASEQVKMLQRIDAHNTRQPPEQKIRVSVEVEKPRE  
ELFQLFGYGDVVFVSKDVAKHLGFQSAEEALRGLYGRVVRKGAVLVCAWAEEGADALGPDGKLLH  
SDAFPPPRVVDTLGAGDTFNASVIFSLSQGRSVQEALRFGCQVAGKKCGLQGF DGIV