

## Active Recombinant Human HK1 protein, His-tagged, Bioactivity Validated.

Cat. No. HK1-40H    Lot. No. (See product label)

### SPECIFICATION

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Overview | Recombinant Human HK1(1-917 aa) fused with His tag at N-terminal was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Species          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Source           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ProteinLength    | 1-917 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 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. Hexokinase1 is found in the adipose tissue and liver and encodes a ubiquitous form of hexokinase which localizes to the outer membrane of mitochondria. Mutations in this hexokinase1 have been associated with hemolytic anemia due to hexokinase deficiency. |
| Form             | Liquid. In 20mM Tris-HCl, pH8.0, 10% glycerol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Bio-activity     | Specific activity is > 3,000 pmol/min/ug. One unit will convert 1 pmoles of D-Glucose to D-Glucose-6-phosphate per minute at pH 7.5 at 37C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Molecular Mass   | 104.6kDa (937aa)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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**AA Sequence**

MGSSHHHHHH SSGLVPRGSH MIAAQLLAYY FTELKDDQVK KIDKYLYAMR  
 LSETLIDIM TRFRKEMKNG LSRDFNPTAT VKMLPTFVRSIPDGSEKGDF  
 IALDLGGSSF RILRVQVNHE KNQNVHMESE VYDTPENIVH GSGSQLFDHV  
 AECLGDFMEK RKIKDKKLPV GFTSFPCQQSKIDEAILIT WTKRFKASGV  
 EGADVVKLLN KAIKKRGDYG ANIVAVVNDT VGTMMTCGYD DQHCEVGLII  
 GTGTNACYME ELRHIDLVEGDEGRMCINTE WGAFGDDGSL EDIRTEFDRE  
 IDRGS LNPGK QLF EK MVSGM YLGELVRLIL VKMAKEGLLF EGRITPELLT  
 RGKFNTSDVS  
 AIEKNKEGLH NAKEILTRLG VEPSDDDCVS VQHVCTIVSF RSANLVAATL  
 GAILNRLRDN KGTPRLRTTV GVDGS LYKTH PQYSRRFHKTLRRLVPDSV  
 RFLLESSESGS KGAAMVTAVA YRLAEQHRQI EETLAHFHLT KDM LLEVKKR  
 MRAEMELGLR KQTHNNAVVK MLPSFVRRTPDGTENGDFLA LDLGGTNFRV  
 LLVKIRSGKK RTVEMHNKIY AIP IEMQGT GEELFDHIVS CISDFLDYMG  
 IKGPRMPLGF TFSFPCQQTSLDAGILITWT KGFKATDCVG HDVVTLLRDA  
 IKRREEFDLD VVAVVNDTVG TMMTCAYEEP TCEVGLIVGT GSNACYMEEM  
 KNVEMVEGDQ  
 GQMCINMEWG AFGDNGCLDD IRTHYDRLVD EYSLNAGKQR YEKMISGMYL  
 GEIVRNILID FTKKGFLFRG QISETLKTRG IFETKFLSQIESDRLALLQV  
 RAILQQLGLN STCDD SILVK TVCGVVSRRRA AQLCGAGMAA VVDKIRENRG  
 LDRLNVTGV DGTLYKLHPH FSRIMHQTVKELSPKCNVSF LLS EDGSGKG  
 AALITAVGVR LRTEASS

**Purity**

> 90% by SDS - PAGE

**Storage**

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

**Concentration**

1 mg/ml (determined by Bradford assay)

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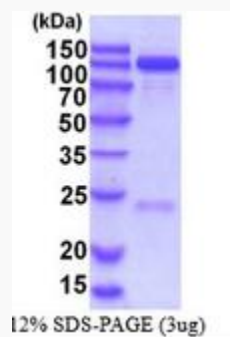
## GENE INFORMATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>           | HK1 hexokinase 1 [ Homo sapiens ]                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Official Symbol</b>     | HK1                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Synonyms</b>            | HK1; hexokinase 1; hexokinase-1; HK I; glycolytic enzyme; hexokinase type I; brain form hexokinase; HKI; HXK1; HK1-ta; HK1-tb; HK1-tc;                                                                                                                                                                                                                                                                                                                                |
| <b>Gene ID</b>             | 3098                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>mRNA Refseq</b>         | NM_000188                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Protein Refseq</b>      | NP_000179                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>MIM</b>                 | 142600                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>UniProt ID</b>          | P19367                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Chromosome Location</b> | 10q22                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Pathway</b>             | Amino sugar and nucleotide sugar metabolism, organism-specific biosystem; Amino sugar and nucleotide sugar metabolism, conserved biosystem; Butirosin and neomycin biosynthesis, organism-specific biosystem; Butirosin and neomycin biosynthesis, conserved biosystem; Carbohydrate digestion and absorption, organism-specific biosystem; Carbohydrate digestion and absorption, conserved biosystem; Fructose and mannose metabolism, organism-specific biosystem; |
| <b>Function</b>            | ATP binding; hexokinase activity; kinase activity; nucleotide binding; transferase activity;                                                                                                                                                                                                                                                                                                                                                                          |

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