Recombinant Human HK1, His-tagged

Cat. No. HK1-29228TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human Hexokinase 1 fused to His-tag at N-terminus; amino acids 1-917 , 104.6kDa.
Species	Human
Source	E.coli
ProteinLength	1-917 a.a.
Description	Hexokinases phosphorylate glucose to produce glucose-6-phosphate, the first step in most glucose metabolism pathways. This gene encodes a ubiquitous form of hexokinase which localizes to the outer membrane of mitochondria. Mutations in this gene have been associated with hemolytic anemia due to hexokinase deficiency. Alternative splicing of this gene results in five transcript variants which encode different isoforms, some of which are tissue-specific. Each isoform has a distinct N-terminus; the remainder of the protein is identical among all the isoforms. A sixth transcript variant has been described, but due to the presence of several stop codons, it is not thought to encode a protein.
Conjugation	HIS
Tissue specificity	Isoform 2 is erythrocyte specific. Isoform 3 and isoform 4 are testis-specific.
Biological activity	Specific activity is 7-8 units/ml obtained by measuring the increase of NADPH in absorbance at 340 nm resulting from the reduction of NADP. In the coupled mode,

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	one unit will produce 1.0 umole of NADPH per minute as glucose is phosphorylated by ATP at pH
Form	Liquid
Purity	>90% by SDS-PAGE
Storage buffer	Preservative: NoneConstituents: 10% Glycerol, 20mM Tris HCl, pH 8.0
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Sequences of amino acids	MGSSHHHHHH SSGLVPRGSH MIAAQLLAYY FTELKDDQVK KIDKYLYAMR LSDETLIDIM TRFRKEMKNG LSRDFNPTAT VKMLPTFVRS IPDGSEKGDF IALDLGGSSF RILRVQVNHE KNQNVHMESE VYDTPENIVH GSGSQLFDHV AECLGDFMEK RKIKDKKLPV GFTFSFPCQQ SKIDEAILIT WTKRFKASGV EGADVVKLLN KAIKKRGDYD ANIVAVVNDT VGTMMTCGYD DQHCEVGLII GTGTNACYME ELRHIDLVEG DEGRMCINTE WGAFGDDGSL EDIRTEFDRE IDRGSLNPGK QLFEKMVSGM YLGELVRLIL VKMAKEGLLF EGRITPELLT RGKFNTSDVS AIEKNKEGLH NAKEILTRLG VEPSDDDCVS VQHVCTIVSF RSANLVAATL GAILNRLRDN KGTPRLRTTV GVDGSLYKTH PQYSRRFHKT LRRLVPDSDV RFLLSESGSG KGAAMVTAVA YRLAEQHRQI EETLAHFHLT KDMLLEVKKR MRAEMELGLR KQTHNNAVVK MLPSFVRRTP DGTENGDFLA LDLGGTNFRV LLVKIRSGKK RTVEMHNKIY AIPIEIMQGT GEELFDHIVS CISDFLDYMG IKGPRMPLGF TFSFPCQQTS LDAGILITWT KGFKATDCVG HDVVTLLRDA IKRREEFDLD VVAVVNDTVG TMMTCAYEEP TCEVGLIVGT GSNACYMEEM KNVEMVEGDQ GQMCINMEWG AFGDNGCLDD IRTHYDRLVD EYSLNAGKQR YEKMISGMYL GEIVRNILID FTKKGFLFRG QISETLKTRG IFETKFLSQI ESDRLALLQV RAILQQLGLN STCDDSILVK TVCGVVSRRA AQLCGAGMAA VVDKIRENRG LDRLNVTVGV DGTLYKLHPH FSRIMHQTVK

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	ELSPKCNVSF LLSEDGSGKG AALITAVGVR LRTEASS
Sequence Similarities	Belongs to the hexokinase family.
Full Length	Full L.

GENE INFORMATION

Gene Name	HK1 hexokinase 1 [Homo sapiens]
Official Symbol	HK1
Synonyms	HK1; hexokinase 1; hexokinase-1;
Gene ID	3098
mRNA Refseq	NM_000188
Protein Refseq	NP_000179
MIM	142600
Uniprot ID	P19367
Chromosome Location	10q22
Pathway	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,

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	organism-specific biosystem;
Function	ATP binding; hexokinase activity; kinase activity; nucleotide binding; transferase activity;

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