
Product Data Sheet

Product Name: HK1 Human

Cat. No.: GP22528

Batch No.: 1

Product Data

Purity >98%

Source Escherichia Coli.

Physical Appearance solid

Shipping Condition Shipped with Ice Packs.

Synonyms Hexokinase-1; EC 2.7.1.1; Hexokinase type I; HK I; Brain form hexokinase; HK1-ta; HK1-tb; HXK1; HK1.

Amino Acid Sequence

MGSSHHHHHH SSGLVPRGSH MIAAQLLAYY FTELKDDQVK KIDKYLYAMR
 LSETLIDIM TRFRKEMKNG LSRDFNPTAT VKMLPTFVRS IPDGSEKGF
 IALDLGGSSF RILRVQVNHE KNQNVHMESE VYDTPENIVH GSGSQLFDHV
 AECLGDFMEK RKIKDKKLPV GFTFSFPCQQ SKIDEAILIT WTKRFKASGV
 EGADVVKLLN KAIKRGDYD ANIVAVVNDT VGTMMTCGYD DQHCEVGLII
 GTGTNACYME ELRHIDLVEG DEGRMCINTE WGAFGDDGSL EDIRTEFDRE
 IDRGS LNPGK QLF EK MVSGM YL GELVRLIL VKMAKEGLLF EGRITPELLT
 RGKFNTSDVS AIEKNKEGLH NAKEILTRLG VEPSDDDCVS VQHVCTIVSF
 RSANLVAATL GAILNRLRDN KGTPRLRTTV GVDGS LYKTH PQYSRRFHKT
 LRR LVPDS DV RFL LSESGSG KGAAMVTAVA YRLAEQHRQI EETLAHFHLT
 KDM LLEVKKR MRAEMELGLR KQTHNNAVVK MLPSFVRRTP DGTENGDFLA
 LDLGGTNFRV LLVKIRSGKK RTVEMHNKIY APIEIMQGT GEELFDHIVS
 CISDFLDYMG IKGPRMPLGF TFSFPCQQTS LDAGILITWT KGFKATDCVG
 HDVVTLLRDA IKRREEFDLD VVAVVNDTVG TMMTCAYEEP TCEVGLIVGT
 GSNACYMEEM KNVEMVEGDQ GQMCINMEWG AFGDNGCLDD IRTHYDRLVD
 EYSLNAGKQR YEKMISGMYL GEIVRNILID FTKKGFLFRG QISETLKTRG
 IFETKFLSQI ESDRLALLQV RAILQQLGLN STCDD SILVK TVCGVVSRRRA
 AQLCGAGMAA VVDKIRENRG LDRLNVTVG DGTLYKLHPH FSRIMHQTVK
 ELSPKCNVSF LLEDGSGKG AALITAVGVR LRTEASS.

Formulation The protein (1mg/ml) contains 20mM Tris-HCl (pH 8.0) and 10% glycerol.

Introduction

Hexokinases phosphorylate glucose to produce glucose-6-phosphate, thus committing

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glucose to the glycolytic pathway. Hexokinase1 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 HXK1 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.

Biological Activity

Specific activity is >2 units/ml obtained by measuring the increase of NADPH in absorbance at 340 nm resulting from the reduction of NADP. In the coupled mode, one unit will produce 1.0 umole of NADPH per minute as glucose is phosphorylated by ATP at pH 7.4 at 25C.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

Background

HK1 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain fused to a 20 amino acids His tag at the N-terminal encoding the sequence of 937 amino acids and having a molecular mass of 104.6 kDa.

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