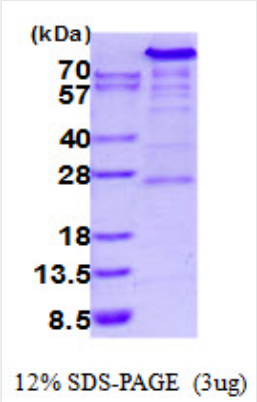
Hexokinase 2 (HK2) Active Protein

PRODUCT OVERVIEW

Product Name	Hexokinase 2 (HK2), Active Protein
Full Product Name	Hexokinase 2,1-917 aa, Human, His tag, E Coli (Bioactivity Validated)
Product Gene Name	HK2 active protein
Product Synonym Names	HK2; Hexokinase 2; EC 2.7.1.1; Hexokinase type II; HK II; Muscle form hexokinase; Hexokinase-2; hexokinase 2
Sequence	MGSSHHHHHH SSGLVPRGSH MIASHLLAYF FTELNHDQVQ KVDQYLYHMR LSDETLLEIS KRFRKEMEKG LGATTHPTAA VKMLPTFVRS TPDGTEHGEF LALDLGGTNF RVLWVKVTDN GLQKVEMENQ IYAIPEDIMR GSGTQLFDHI AECLANFMDK LQIKDKKLPL GFTFSFPCHQ TKLDESFLVS WTKGFKSSGV EGRDVVALIR KAIQRRGDFD IDIVAVVNDT VGTMMTCGYD DHNCEIGLIV GTGSNACYME EMRHIDMVEG DEGRMCINME WGAFGDDGSL NDIRTEFDQE IDMGSLNPGK QLFEKMISGM YMGELVRLIL VKMAKEELLF GGKLSPELLN TGRFETKDIS DIEGEKDGIR KAREVLMRLG LDPTQEDCVA THRICQIVST RSASLCAATL AAVLQRIKEN KGEERLRSTI GVDGSVYKKH PHFAKRLHKT VRRLVPGCDV RFLRSEDGSG KGAAMVTAVA YRLADQHRAR QKTLEHLQLS HDQLLEVKRR MKVEMERGLS KETHASAPVK MLPTYVCATP DGTEKGDFLA LDLGGTNFRV LLVRVRNGKW GGVEMHNKIY AIPQEVMHGT GDELFDHIVQ CIADFLEYMG MKGVSLPLGF TFSFPCQQNS LDESILLKWT KGFKASGCEG EDVVTLLKEA IHRREEFDLD VVAVVNDTVG TMMTCGFEDP HCEVGLIVGT GSNACYMEEM RNVELVEGEE GRMCVNMEWG AFGDNGCLDD FRTEFDVAVD ELSLNPGKQR FEKMISGMYL GEIVRNILID FTKRGLLFRG RISERLKTRG IFETKFLSQI ESDCLALLQV RAILQHLGLE STCDDSIIVK EVCTVVARRA AQLCGAGMAA VVDRIRENRG LDALKVTVGV DGTLYKLHPH FAKVMHETVK DLAPKCDVSF LQSEDGSGKG AALITAVACR IREAGQR
Host	E Coli
Form/Format	Liquid. In 20mM Tris-HCl pH8.0, 10% glycerol
Purity/Purification	> 85% by SDS-PAGE
Concentration	1 mg/ml (determined by Bradford assay) (lot specific)
Preparation and Storage	Can be stored at 4 degree C short term (1-2 weeks). For long term storage, aliquot and store at -20 degree C or -70 degree C. Avoid repeated freezing and thawing cycles.
Molecular Weight	104.1kDa (937aa)
OMIM	Z46376 mRNA
3D Structure	ModBase 3D Structure for P52789
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Antigen Species	Human
Tag Information	His-tag
Biological Activity	Specific activity is > 12,000 pmol/min/ug. One unit will convert 1 pmoles of D-Glucose to D-Glucose-6-phosphate per minute at pH8.0 at 37C.
Dry Ice Shipment	Extra charge fee may add to your shipping cost as dry ice is required to ship this product.
Product Categories/Family for HK2 active protein	Signal Transduction
Applications Tested/Suitable for HK2 active protein	SDS-PAGE

Related Product Information for HK2 active protein	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. Hexokinase2 is found in the skeletal muscle and includes hydrophobic N-terminal sequence capable of targeting the hexokinase to mitochondria. Recombinant human Hexokinase2, fused to His tag at N-terminus, was expressed in E Coli and purified by using conventional chromatography techniques.
Product References and Citations for HK2 active protein	Jon E. et al., (2003) J.Exp Biology. 206 : 2049-2057.; Furuta H. et al., (1996) Genomics. 36 (1):206-9.;
Other Notes	Small volumes of HK2 active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for HK2 purchase	MBS203048 is an active protein targeting HK2. Also known as Hexokinase 2,1-917 aa, Human, His tag, E Coli (Bioactivity Validated). Host: E Coli.



SDS-Page of HK2 active protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HK2. It may not necessarily be applicable to this product.

NCBI GI #	15553127
NCBI GeneID	3099
NCBI Accession #	NP_000180
UniProt Primary Accession #	P52789
UniProt Secondary Accession #	Q8WU87; Q9UN82; D6W5J2
UniProt Related Accession #	P52789
GenBank Nucleotide #	NM_000189.4
NCBI Official Full Name	hexokinase-2
NCBI Official Synonym Full Names	hexokinase 2
NCBI Official Symbol	HK2
NCBI Official Synonym Symbols	HKII; HXK2
UniProt Protein Name	Hexokinase-2
UniProt Synonym Protein Names	Hexokinase type II; HK II; Muscle form hexokinase
Protein Family	Probable histidine kinase
UniProt Gene Name	HK2

UniProt Synonym Gene Names	HK II
NCBI Protein Information	hexokinase-2
NCBI Summary for HK2	Hexokinases phosphorylate glucose to produce glucose-6-phosphate, the first step in most glucose metabolism pathways. This gene encodes hexokinase 2, the predominant form found in skeletal muscle. It localizes to the outer membrane of mitochondria. Expression of this gene is insulin-responsive, and studies in rat suggest that it is involved in the increased rate of glycolysis seen in rapidly growing cancer cells. [provided by RefSeq, Apr 2009]
UniProt Comments for HK2	MiscellaneousIn vertebrates there are four major glucose-phosphorylating isoenzymes, designated hexokinase I, II, III and IV (glucokinase).
Research Articles on HK2	**1.** High HKII expresiion is associated with nasopharyngeal carcinoma.
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