Hexokinase 2 (HK2) ELISA Kit for Cavy

PRODUCT OVERVIEW

Product Name	Hexokinase 2 (HK2), ELISA Kit
Full Product Name	Cavy Hexokinase 2 ELISA Kit
Product Gene Name	HK2 elisa kit
Species Reactivity	Cavy
Assay Type	Sandwich
Preparation and Storage	Store all reagents at 2-8 degree C
Molecular Weight	102,380 Da
Chromosome Location	Chromosome: 2; NC_000002.11 (75059782..75120481). Location: 2p13
OMIM	601125
3D Structure	ModBase 3D Structure for P52789
Related Product Information for HK2 elisa kit	MBS018767 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Hexokinase 2 (HK2) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing HK2. The ELISA analytical biochemical technique of the MBS018767 kit is based on HK2 antibody-HK2 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect HK2 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, HK2. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).
Other Notes	Small volumes of HK2 elisa kit 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.

ADDITIONAL DETAILS

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

NCBI GI #	39963174
NCBI GeneID	3099
NCBI Accession #	AAH64369.1
UniProt Primary Accession #	P52789
UniProt Secondary Accession #	Q8WU87; Q9UN82; D6W5J2
UniProt Related Accession #	P52789
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
UniProt Entry Name	HXK2_HUMAN
NCBI Protein Information	hexokinase-2; HK II; hexokinase type II; hexokinase-2, muscle; muscle form hexokinase
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	HK2: a glycolytic enzyme that catalyzes the reaction ATP + D-hexose = ADP + D-hexose 6-phosphate. The first and rate-limiting step in glycosis, a pathway that produces energy in the form of ATP from glucose. An allosteric enzyme inhibited by its product glucose-6-phosphate (Glc-6-P). The predominant hexokinase isozyme expressed in insulin-responsive tissues such as skeletal muscle. Acts as a ""glucose sensor"" by trapping glucose inside the cell by catalyzing its phosphorylation to produce Glc-6-P. In vertebrates there are four major glucose-phosphorylating isoenzymes, designated hexokinase I, II, III and IV (glucokinase). Genetic variations of HK2 do not appear to contribute to NIDDM. Protein type: Kinase, other; Carbohydrate Metabolism - glycolysis and gluconeogenesis; Carbohydrate Metabolism - fructose and mannose; Carbohydrate Metabolism - starch and sucrose; Mitochondrial; EC 2.7.1.1; Carbohydrate Metabolism - galactose; Carbohydrate Metabolism - amino sugar and nucleotide sugar Chromosomal Location of Human Ortholog: 2p13 Cellular Component: mitochondrial outer membrane; membrane; cytosol Molecular Function: hexokinase activity; mannokinase activity; fructokinase activity; glucokinase activity; ATP binding; glucose binding Biological Process: lactation; apoptotic mitochondrial changes; glycolysis; hexose transport; carbohydrate metabolic process; carbohydrate phosphorylation; glucose 6-phosphate metabolic process; cell glucose homeostasis; glucose metabolic process; regulation of glucose import; pathogenesis; glucose transport; transmembrane transport
Research Articles on HK2	**1.** chronic inhibition of GSK-3 elicited a marked increase in brain-derived neurotrophic factor (BDNF) secretion, which in turn conferred resistance to mitochondrial dysfunction through subcellular re-distribution of HKII.
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