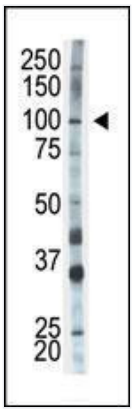
Hexokinase 1 (HEX1) Antibody – Rabbit Polyclonal

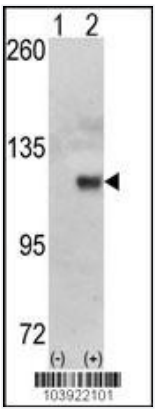
PRODUCT OVERVIEW

Product Name	Hexokinase 1 (HEX1), Polyclonal Antibody
Full Product Name	Hexokinase 1, NT (Hexokinase-1, Hexokinase Type I, HEX1, HK I, HKI, HK1, HXK1, Brain Form Hexokinase) (APC)
Product Gene Name	anti-HEX1 antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Allophycocyanin (APC).
Purity/Purification	Purified by Protein G Affinity Chromatography.
Specificity	Recognizes human HK1. Species Crossreactivity: mouse.
Preparation and Storage	May be stored at 4 degree C for short-term only. Aliquot to avoid repeated freezing and thawing. Do not freeze APC conjugates. Light sensitive. Aliquots are stable for at least 6 months. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.
Molecular Weight	102,486 Da
Chromosome Location	Chromosome: 10; NC_000010.10 (71029756..71161638). Location: 10q22
OMIM	142600
3D Structure	ModBase 3D Structure for P19367
Immunogen	Synthetic peptide selected from the N-terminal region of human HK1 (KLH).
Conjugate	APC
Note	Preservative Free
Special Handling	Light sensitive
Product Categories/Family for anti-HEX1 antibody	Antibodies; Enzymes
Applications Tested/Suitable for anti-HEX1 antibody	Immunohistochemistry (IHC), FLISA, Western Blot (WB)
Application Notes for anti-HEX1 antibody	IHC: 1:50-1:100 FLISA: 1:1,000 WB: 1:100-1:500 Applications are based on unconjugated antibody.
Related Product Information for anti-HEX1 antibody	MBS6480185 is an antibody targeting HEX1. Also known as Hexokinase 1, NT (Hexokinase-1, Hexokinase Type I, HEX1, HK I, HKI, HK1, HXK1, Brain Form Hexokinase) (APC). Reactive in Human, Mouse. Host: Rabbit.
Product References and Citations for anti-HEX1 antibody	1. van Wijk, R., et al., Blood 101(1):345-347 (2003). 2. Murakami, K., et al., Acta Haematol. 108(4):204-209 (2002). 3. Murakami, K., et al., Mol. Genet. Metab. 67(2):118-130 (1999). 4. Aleshin, A.E., et al., Structure 6(1):39-50 (1998). 5. Ruzzo, A., et al., Blood 91(1):363-364 (1998).

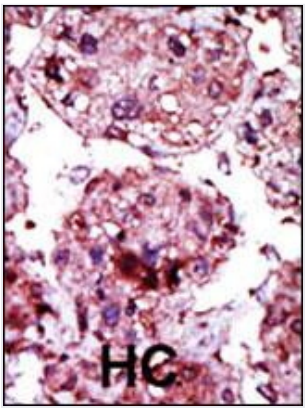
Other Notes	Small volumes of anti-HEX1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



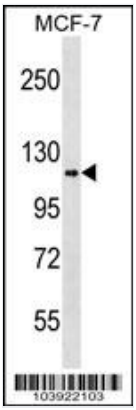
Western Blot (WB) of anti-HEX1 antibody
The anti-HK1 Pab is used in Western blot to detect HK1 in mouse skeletal muscle tissue lysate.



Western Blot (WB) of anti-HEX1 antibody
Western blot analysis of HK1 (arrow) using HK1 Antibody (N-term). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the HK1 gene (Lane 2) (Origene Technologies).



Immunohistochemistry (IHC) of anti-HEX1 antibody
Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Western Blot (WB) of anti-HEX1 antibody
HK1 Antibody (L93) western blot analysis in MCF-7 cell line lysates (35ug/lane).This demonstrates the HK1 antibody detected the HK1 protein (arrow).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HEX1. It may not necessarily be applicable to this product.

NCBI GI #	188497754
NCBI GeneID	3098
NCBI Accession #	NP_000179.2
UniProt Primary Accession #	P19367
UniProt Secondary Accession #	O43443; O43444; O75574; Q5VTC3; Q96HC8; Q9NNZ4; Q9NNZ5; E9PCK0
UniProt Related Accession #	P19367
GenBank Nucleotide #	NM_000188.2
NCBI Official Full Name	hexokinase-1 isoform HKI
NCBI Official Synonym Full Names	hexokinase 1
NCBI Official Symbol	HK1

NCBI Official Synonym Symbols	HKI; HXK1; HK1-ta; HK1-tb; HK1-tc
UniProt Protein Name	Hexokinase-1
UniProt Synonym Protein Names	Brain form hexokinase; Hexokinase type I
Protein Family	Woronin body major protein
UniProt Gene Name	HK1
UniProt Synonym Gene Names	HK I
UniProt Entry Name	HXK1_HUMAN
NCBI Protein Information	hexokinase-1; HK I; glycolytic enzyme; hexokinase type I; brain form hexokinase
NCBI Summary for HEX1	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. [provided by RefSeq, Apr 2009]
UniProt Comments for HEX1	HK1: 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). HK-2 and its mitochondrial receptor (VDAC) play the most pivotal and direct roles in the ""Warburg effect"". 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). Four human isoforms are produced by alternative splicing and alternative initiation. Isoform HK1 is markedly elevated in rapidly growing tumor cells exhibiting high glucose catabolic rates. HK1 is present in most tissues but is especially prominent in brain and kidney. Isoform HK1-SC is is an integral membrane protein detected in round spermatids, condensing spermatids and mature sperm where it is found in the head membranes, mitochondria of the midpiece and the fibrous sheath of the flagellum. Isoform HK1-SA is first expressed during meiosis and continues to be present in postmeiotic germ cells while isoform HK1-SB is present only in postmeiotic germ cells. Protein type: Carbohydrate Metabolism - amino sugar and nucleotide sugar; Kinase, other; Carbohydrate Metabolism - starch and sucrose; Carbohydrate Metabolism - glycolysis and gluconeogenesis; Mitochondrial; Carbohydrate Metabolism - galactose; EC 2.7.1.1; Carbohydrate Metabolism - fructose and mannose Chromosomal Location of Human Ortholog: 10q22 Cellular Component: mitochondrial outer membrane; mitochondrion; cytosol; lipid raft Molecular Function: hexokinase activity; protein binding; mannokinase activity; fructokinase activity; glucokinase activity; ATP binding Biological Process: hexose metabolic process; glycolysis; hexose transport; carbohydrate metabolic process; glucose 6-phosphate metabolic process; carbohydrate phosphorylation; cell glucose homeostasis; pathogenesis; glucose transport; transmembrane transport Disease: Hemolytic Anemia, Nonspherocytic, Due To Hexokinase Deficiency; Neuropathy, Hereditary Motor And Sensory, Russe Type
Research Articles on HEX1	**1.** The screening for novel Parkin substrate(s) identified mitochondrial hexokinase I (HKI) as a candidate.
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