10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HK2 (Hexokinase II) Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8140f

Product Information

Application	WB, IHC-P, E
Primary Accession	P52789
Other Accession	NP_000180
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	102380
Antigen Region	453-483

Additional Information

Gene ID	3099
Other Names	Hexokinase-2, Hexokinase type II, HK II, Muscle form hexokinase, HK2
Target/Specificity	This HK2 (Hexokinase II) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 453-483 amino acids from the Central region of human HK2 (Hexokinase II).
Dilution	WB~~1:1000 IHC-P~~1:100 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HK2 (Hexokinase II) Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HK2 (HGNC:4923)
Function	Catalyzes the phosphorylation of hexose, such as D-glucose and D-fructose, to hexose 6-phosphate (D-glucose 6-phosphate and D- fructose 6-phosphate, respectively) (PubMed:23185017, PubMed:26985301, PubMed:29298880). Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (PubMed:29298880). Plays a key role in

	maintaining the integrity of the outer mitochondrial membrane by preventing the release of apoptogenic molecules from the intermembrane space and subsequent apoptosis (PubMed:18350175).
Cellular Location	Mitochondrion outer membrane; Peripheral membrane protein. Cytoplasm, cytosol Note=The mitochondrial-binding peptide (MBP) region promotes association with the mitochondrial outer membrane (PubMed:29298880) The interaction with the mitochondrial outer membrane via the mitochondrial-binding peptide (MBP) region promotes higher stability of the protein (PubMed:29298880). Release from the mitochondrial outer membrane into the cytosol induces permeability transition pore (PTP) opening and apoptosis (PubMed:18350175).
Tissue Location	Predominant hexokinase isozyme expressed in insulin-responsive tissues such as skeletal muscle

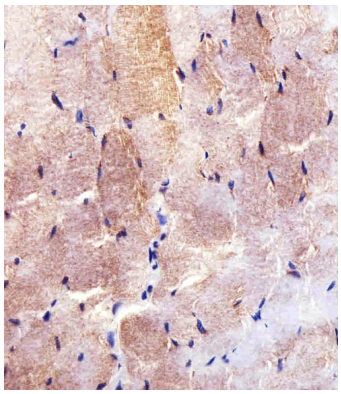
Background

In vertebrates there are four major glucose-phosphorylating isoenzymes, designated hexokinase I, II, III, and IV. Hexokinase is an allosteric enzyme inhibited by its product GLC-6-P. Hexokinase activity is involved in the first step in several metabolic pathways. HK3 is bound to the outer mitochondrial membrane. Its hydrophobic N-terminal sequence may be involved in membrane bindng. It is the predominant hexokinase isozyme expressed in insuline-responsive tissues such as skeletal muscle. The N- and C-terminal halves of this hexokinase show extensive sequence similarity to each other. The catalytic activity is associated with the C-terminus while regulatory function is associated wiht the N-terminus. Although found in NIDDM patients, genetic variations of HK2 do not contribute to the disease.

References

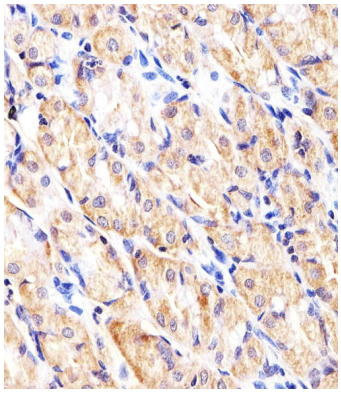
Lehto, M., et al., Diabetologia 38(12):1466-1474 (1995).
Vidal-Puig, A., et al., Diabetes 44(3):340-346 (1995).
Laakso, M., et al., Diabetes 44(3):330-334 (1995).
Echwald, S.M., et al., Diabetes 44(3):347-353 (1995).
Shinohara, Y., et al., Cancer Lett. 82(1):27-32 (1994).

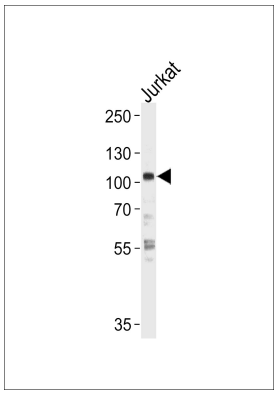
Images



Immunohistochemical analysis of paraffin-embedded H. skeletal muscle section using HK2 (Hexokinase II) Antibody (Center)(Cat#AP8140f). AP8140f was diluted at 1:100 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

Immunohistochemical analysis of paraffin-embedded H. stomach section using HK2 (Hexokinase II) Antibody (Center)(Cat#AP8140f). AP8140f was diluted at 1:100 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.





HK2 Antibody (R468) (Cat. #AP8140f) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the HK2 antibody detected the HK2 protein (arrow).