

HK2 (Hexokinase II) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8140a

Product Information

Application	IHC-P, WB, E
Primary Accession	P52789
Other Accession	P27881 , Q1W674 , O08528
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Pig, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	102380
Antigen Region	91-121

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 91-121 amino acids from the N-terminal region of human HK2 (Hexokinase II).
Dilution	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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 (N-term) 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

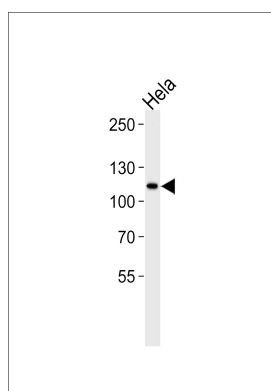
Background

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 binding. It is the predominant hexokinase isozyme expressed in insulin-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 with the N-terminus. Although found in NIDDM patients, genetic variations of HK2 do not contribute to the disease.

References

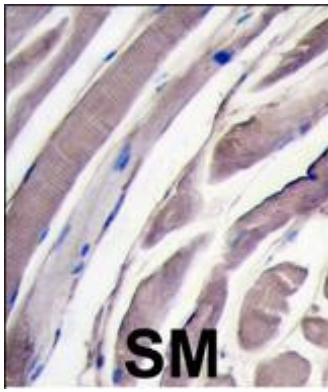
Lehto, M., et al., Diabetologia 38(12):1466-1474 (1995).
Vidal-Puig, A., et al., Diabetes 44(3):340-346 (1995).
Laakso, M., et al., Diabetes 44(3):330-334 (1995).
Echwald, S.M., et al., Diabetes 44(3):347-353 (1995).
Shinohara, Y., et al., Cancer Lett. 82(1):27-32 (1994).

Images



HK2 Antibody (E106) (Cat. #AP8140a) western blot analysis in HeLa cell line lysates (35ug/lane). This demonstrates the HK2 antibody detected the HK2 protein (arrow).

Formalin-fixed and paraffin-embedded human skeletal muscle tissue reacted with HK2 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical



relevance has not been evaluated.

Citations

- [Circ_0046599 Promotes the Development of Hepatocellular Carcinoma by Regulating the miR-1258/RPN2 Network](#)
- [Analyses of resected human brain metastases of breast cancer reveal the association between up-regulation of hexokinase 2 and poor prognosis.](#)

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