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HK2 (Hexokinase II) Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP8140f

Specification

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - Product Information

Primary Accession	P52789
Other Accession	NP_000180

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - Additional Information

Gene ID 3099

Other Names
Hexokinase-2, Hexokinase type II, HK II, Muscle form hexokinase, HK2

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8140f was selected from the Center region of human HK2 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - 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

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - Images

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - 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.

HK2 (Hexokinase II) Antibody (Center) Blocking peptide - 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).