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HK2 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1441a

Specification

HK2 Antibody - Product Information

Application	**WB, IHC, FC, E**
Primary Accession	P52789
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**102kDa KDa**

Description
The hexokinases utilize Mg-ATP as a phosphoryl donor to catalyze the first step of intracellular glucose metabolism, the conversion of glucose to glucose- 6-phosphate. Four hexokinase isoenzymes have been identified, including hexokinase I (HXK I), hexokinase II (HXK II), hexokinase III (HXK III) and hexokinase IV (HXK IV, also designated glucokinase or GCK). Hexokinases I-III each contain an N-terminal cluster of hydrophobic amino acids. Glucokinase lacks the N-terminal hydrophobic cluster. The hydrophobic cluster is thought to be necessary for membrane binding. This is substantiated by the finding that glucokinase has lower affinity for glucose than do the other hexokinases .Hexokinase 2 is the predominant hexokinase isozyme expressed in insulin-responsive tissues such as skeletal muscle. 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.

Immunogen
Purified recombinant fragment of human HK2 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

HK2 Antibody - Additional Information

Gene ID 3099

Other Names
Hexokinase-2, 2.7.1.1, Hexokinase type II, HK II, Muscle form hexokinase, HK2

Dilution
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
FC~~1/200 - 1/400
E~~N/A

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
HK2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

HK2 Antibody - 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 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HK2 Antibody - Images

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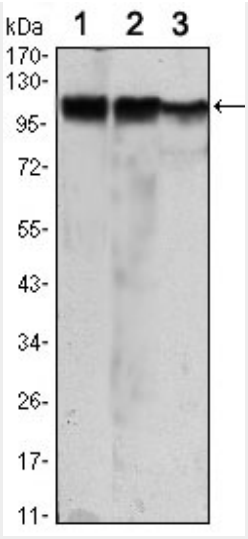

Figure 1: Western blot analysis using HK2 mouse mAb against Jurkat (1), Hela (2) and HEK293 (3) cell lysate.

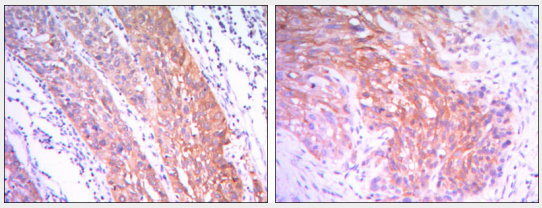

Figure 2: Immunohistochemical analysis of paraffin-embedded esophagus cancer tissues (left) and human lung cancer (right) using HK2 mouse mAb with DAB staining.

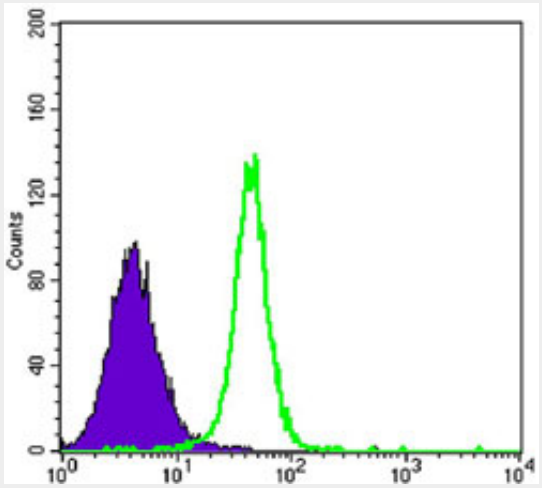

Figure 3: Flow cytometric analysis of K562 cells using HK2 mouse mAb (green) and negative control (purple).

HK2 Antibody - References

1. Cell. 2006 May 19;125(4):801-14. 2. Cancer Sci. 2008 Feb;99(2):260-6. 3. Med Oncol. 2009;26(3):303-8.