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HK1 (Hexokinase) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8141a

Specification

HK1 (Hexokinase) Antibody (N-term) - Product Information

Application	**WB, IHC-P-Leica,E**
Primary Accession	P19367
Reactivity	**Human, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit Ig**
Antigen Region	**78-108**

HK1 (Hexokinase) Antibody (N-term) - Additional Information

Gene ID 3098

Other Names
Hexokinase-1, Brain form hexokinase, Hexokinase type I, HK I, HK1

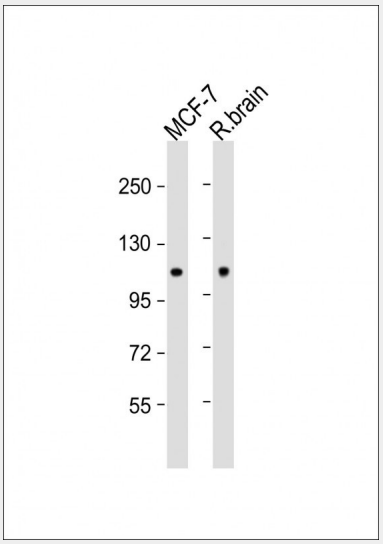
Target/Specificity
This HK1 (Hexokinase) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 78-108 amino acids from the N-terminal region of human HK1 (Hexokinase).

Dilution
WB~~1:1000
IHC-P-Leica~~1:500

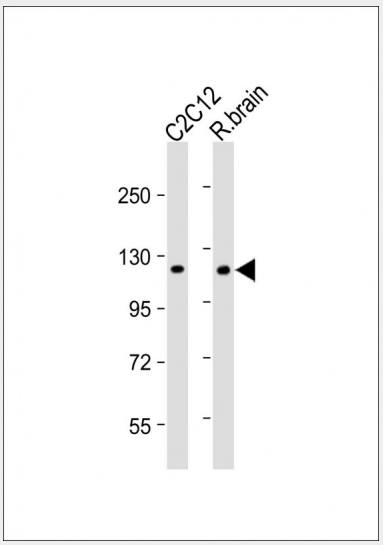
Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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
HK1 (Hexokinase) Antibody (N-term) is for research use only and not for use in



All lanes : Anti-HK1 (Hexokinase) Antibody (N-term) at 1:1000 dilution Lane 1: MCF-7 whole cell lysate Lane 2: Rat brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 110 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-hHK1-L93 at 1:2000 dilution Lane 1: C2C12 whole cell lysate Lane 2: Rat brain lysate Lysates/proteins at 20 µg per

diagnostic or therapeutic procedures.

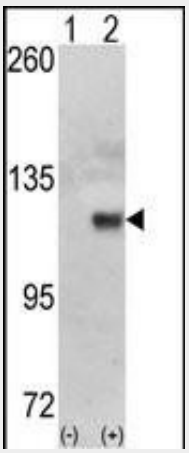
HK1 (Hexokinase) Antibody (N-term) - Protein Information

Name HK1 (HGNC:4922)

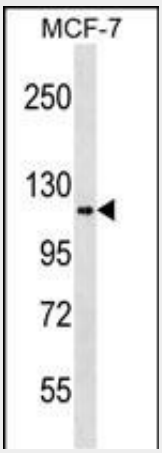
Function
Catalyzes the phosphorylation of various hexoses, such as D- glucose, D-glucosamine, D-fructose, D-mannose and 2-deoxy-D-glucose, to hexose 6-phosphate (D-glucose 6-phosphate, D-glucosamine 6-phosphate, D-fructose 6-phosphate, D-mannose 6-phosphate and 2-deoxy-D-glucose 6- phosphate, respectively) (PubMed:1637300, PubMed:25316723, PubMed:27374331). Does not phosphorylate N-acetyl-D-glucosamine (PubMed:27374331). Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (By similarity). Involved in innate immunity and inflammation by acting as a pattern recognition receptor for bacterial peptidoglycan (PubMed:27374331). When released in the cytosol, N-acetyl-D-glucosamine component of bacterial peptidoglycan inhibits the hexokinase activity of HK1 and causes its dissociation from mitochondrial outer membrane, thereby activating the NLRP3 inflammasome (PubMed:27374331).

Cellular Location
Mitochondrion outer membrane; Peripheral membrane protein. Cytoplasm, cytosol. Note=The mitochondrial-binding peptide (MBP) region promotes association with the mitochondrial outer membrane (Probable). Dissociates from the mitochondrial outer membrane following inhibition by N-acetyl-D-glucosamine, leading to

lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 102 kDa
Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of HK1 (arrow) using HK1 Antibody (N-term) (Cat.#AP8141a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the HK1 gene (Lane 2) (Origene Technologies).



HK1 Antibody (L93) (Cat. #AP8141a) western blot analysis in MCF-7 cell line lysates (35ug/lane).This demonstrates the HK1 antibody detected the HK1 protein (arrow).

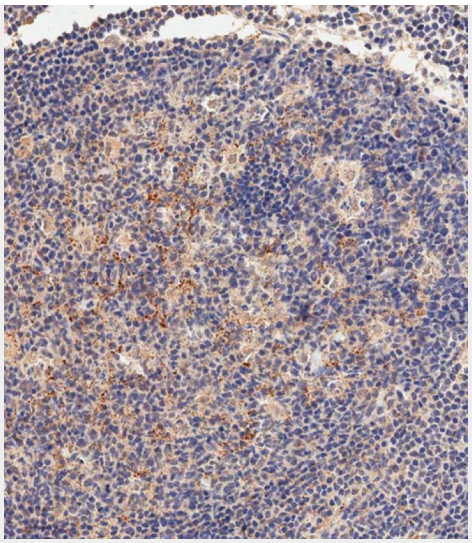
relocation to the cytosol (PubMed:27374331).

Tissue Location
Isoform 2: Erythrocyte specific (Ref.6). Isoform 3: Testis-specific (PubMed:10978502). Isoform 4: Testis-specific (PubMed:10978502). {ECO:0000269|PubMed:10978502, ECO:0000269|Ref.6}

HK1 (Hexokinase) Antibody (N-term) - 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



Immunohistochemical analysis of paraffin-embedded human tonsil tissue using AP8141a performed on the Leica® BOND RXm. Samples were incubated with primary antibody(1/500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

HK1 (Hexokinase) Antibody (N-term) - Background

Hexokinases phosphorylate glucose to produce glucose-6-phosphate, thus committing glucose to the glycolytic pathway. The hexokinase 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 the hexokinase 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. HK1 encodes the ubiquitously expressed isoform. Its 5' end includes an exon which is unique to this transcript and which encodes a distinct N-terminus that contains the porin binding domain (PBD). The porin binding domain mediates association with the mitochondrial membrane.

HK1 (Hexokinase) Antibody (N-term) - References

van Wijk, R., et al., Blood 101(1):345-347 (2003).
Murakami, K., et al., Acta Haematol. 108(4):204-209 (2002).
Murakami, K., et al., Mol. Genet. Metab. 67(2):118-130 (1999).
Aleshin, A.E., et al., Structure 6(1):39-50 (1998).
Ruzzo, A., et al., Blood 91(1):363-364 (1998).

HK1 (Hexokinase) Antibody (N-term) - Citations

- Plasma kallikrein contributes to ambient particulate matter-induced lung injury.
- Quantitative changes in the mitochondrial proteome from subjects with mild cognitive impairment, early stage, and late stage Alzheimer's disease.