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

Hexokinase 1 Antibody

Rabbit mAb
Catalog # AP90533

Product Information

Application	WB, IHC, IF, FC, ICC, IHF
Primary Accession	P19367
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	HK1;HK1-ta;HK1-tb;HK1-tc;HKI;HXK1; Hexokinase 1;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	102486

Additional Information

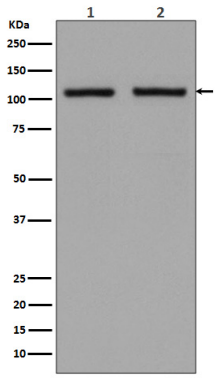
Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 FC 1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Hexokinase 1
Description	Hexokinases I, II, and III are associated with the outer mitochondrial membrane and are critical for maintaining an elevated rate of aerobic glycolysis in cancer cells (Warburg Effect) in order to compensate for the increased energy demands associated with rapid cell growth and proliferation.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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 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}

Images



Western blot analysis of Hexokinase 1 expression in (1) MCF-7 cell lysate; (2) 293T cell lysate.

Image not found : 202311/AP90533-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human lung carcinoma, using Hexokinase 1 Antibody.