

HK2 Polyclonal Antibody

Catalog NumberPA5-17257

Product data sheet

Details		Species Reactivity	
Size	100 µL	Species reactivity	Human, Non-human primate
Host/Isotope	Rabbit / IgG	Published species	Human
Class	Polyclonal	Tested Applications	Dilution *
Type	Antibody	Western Blot (WB)	1:1,000
Immunogen	Synthetic peptide corresponding to the sequence of human hexokinase (isoform II)	Published Applications	
Conjugate	Unconjugated	Western Blot (WB)	See 1 publications below
Form	Liquid	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Purification	Antigen affinity chromatography		
Storage buffer	0.01M HEPES, pH 7.5, with 0.15M NaCl, 100µg/mL BSA, 50% glycerol		
Contains	no preservative		
Storage Conditions	-20°C		

Product specific information

It is not recommended to aliquot this antibody.

Background/Target Information

In vertebrates there are four major glucose-phosphorylating isoenzymes, designated hexokinase I, II, III, and IV. Hexokinase activity is involved in the first step in several metabolic pathways including phosphorylation of glucose to produce glucose-6-phosphate, thus committing glucose to the glycolytic pathway. Hexokinase is an allosteric enzyme inhibited by its product GLC-6-P. 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.

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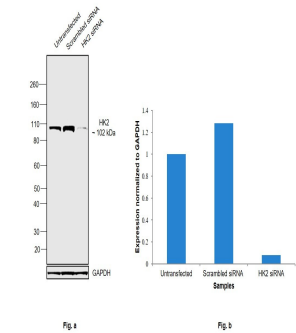
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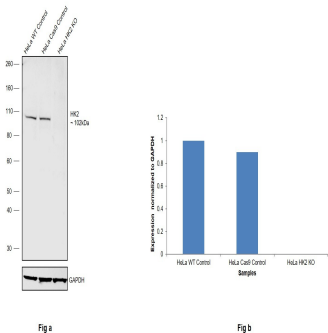
HK2 Antibody (PA5-17257)

Antibody specificity was demonstrated by siRNA mediated knockdown of target protein. U-87 MG cells were transfected with Hexokinase-2 siRNA and decrease in signal intensity was observed in Western Blot application using Anti-HK2 Polyclonal Antibody (Product # PA5-17257). {KD}



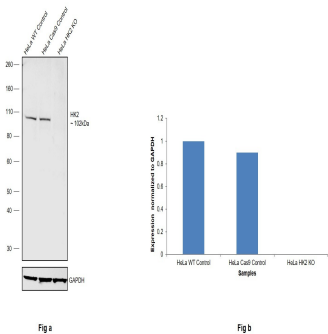
HK2 Antibody (PA5-17257) in WB

Knockout of HK2 was achieved by CRISPR-Cas9 genome editing using LentiArray™ Lentiviral sgRNA (Product # A32042, Assay ID CRISPR1034965_LV) and LentiArray Cas9 Lentivirus (Product # A32064). Western blot analysis of HK2 was performed by loading 30 µg of HeLa Wild Type (Lane 1), HeLa Cas9 (Lane 2) and HeLa HK2 KO (Lane 3) whole cell extracts. The samples were electrophoresed using NuPAGE™ Novex™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with Anti-HK2 Polyclonal Antibody (Product # PA5-17257, 1:1,000 dilution) and Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:6,000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using SuperSignal™ West Dura Extended Duration Substrate (Product # 34076). Loss of signal upon CRISPR mediated knockout (KO) using the LentiArray™ CRISPR product line confirms that antibody is specific to HK2.



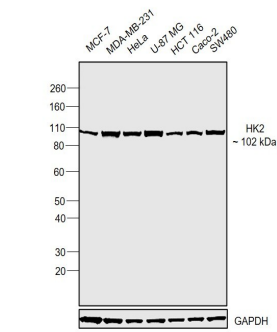
HK2 Antibody (PA5-17257)

Antibody specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein. A loss of signal was observed for target protein in HK2 KO cell line compared to control cell line using Anti-HK2 Polyclonal Antibody (Product # PA5-17257). {KO}



HK2 Antibody (PA5-17257) in WB

Western Blot was performed using Anti-HK2 Polyclonal Antibody (Product # PA5-17257) and a 102 kDa band corresponding to Hexokinase-2 was observed across cell lines tested. Whole cell extracts (30 µg lysate) of MCF7 (Lane 1), MDA-MB-231 (Lane 2), HeLa (Lane 3), U-87 MG (Lane 4), HCT 116 (Lane 5), Caco-2 (Lane 6) and SW480 (Lane 7) were electrophoresed using NuPAGE™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:1000 dilution) and detected by chemiluminescence with Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005).



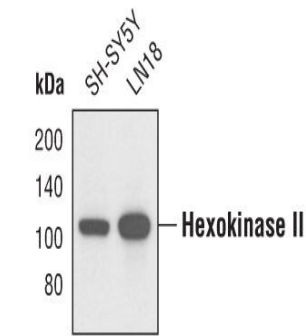
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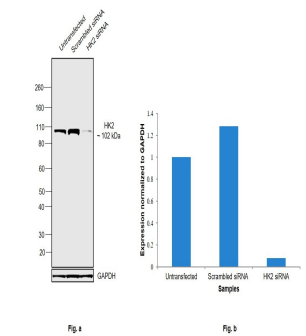
HK2 Antibody (PA5-17257) in WB

Western blot analysis of Hexokinase II in extracts from SH-SY5Y and LN18 cells using Hexokinase II polyclonal antibody (Product # PA5-17257).



HK2 Antibody (PA5-17257) in WB

Knockdown of Hexokinase-2 was achieved by transfecting U-87 MG with Hexokinase-2 specific siRNAs (Silencer® select Product # s6560, s6562). Western Blot analysis (Fig. a) was performed using Whole cell extracts from the Hexokinase-2 knockdown cells (lane 3), non-targeting scrambled siRNA transfected cells (lane 2) and untransfected cells (lane 1). The blot was probed with HK2 Polyclonal Antibody (Product # PA5-17257, 1:1000 dilution) and Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:4000 dilution). Densitometric analysis of this Western Blot is shown in histogram (Fig. b). Decrease in signal upon siRNA mediated knock down confirms that antibody is specific to Hexokinase-2.



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PubMed References For HK2 Polyclonal Antibody

1 Western Blot References

Species / Dilution	Summary
	PA5-17257 was used in Western Blotting to demonstrate that STOML2 silencing inhibits cell proliferation and glycolysis through downregulation of PAI-1 expression, suggesting a new therapeutic target for MM.
Human / 1:15000	Journal of orthopaedic surgery and research (2021; 16:) "Expression of STOML2 promotes proliferation and glycolysis of multiple myeloma cells via upregulating PAI-1." Author(s):Zhang H,Wu G,Feng J,Lu X,Liu P PubMed Article URL: http://dx.doi.org/10.1186/s13018-021-02819-2

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