abcam

ab233837

Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR10134(B)
Purification technique	Affinity purification Protein A
Concentration	1.044 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human
Dilution info	-

Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information HK1

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab233837 is the carrier-free version of ab150423.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

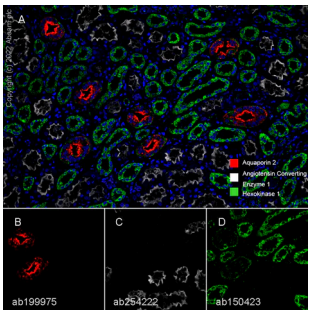
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

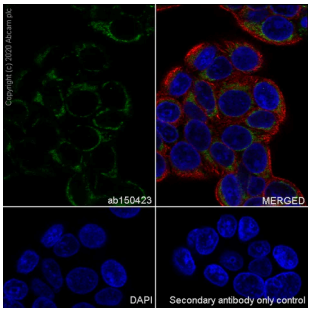
Full details and terms and conditions can be found here:
Terms & Conditions.

11 product images



Multiplex immunohistochemistry - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

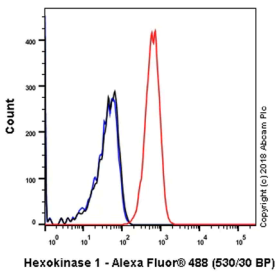
Fluorescence multiplex immunohistochemical analysis of the human kidney (Formalin/PFA-fixed paraffin-embedded sections). Panel A: merged staining of anti-Hexokinase 1 (ab150423, green; Opal™690), anti-Angiotensin Converting Enzyme 1 (ab254222, gray; Opal™520) and anti-Aquaporin 2 (ab199975, red; Opal™570) on human kidney. Panel B: anti-Aquaporin 2 stained on collecting tubules. Panel C: anti-Angiotensin Converting Enzyme 1 stained on proximal tubules. Panel D: anti-Hexokinase 1 stained on distal tubules and collecting tubules. Opal Polymer HRP Ms + Rb was used as a secondary antibody. The section was incubated in three rounds of staining: in the order of ab150423 at 1/250 dilution (4.224 µg/ml), ab254222 at 1/4000 dilution (0.141 µg/ml) and ab199975 at 1/4000 dilution (0.152 µg/ml) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins. DAPI (blue) was used as a nuclear counter stain. This data was developed using ab150423, the same antibody clone in a different buffer formulation.



Immunocytochemistry/ Immunofluorescence - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Hexokinase 1 antibody

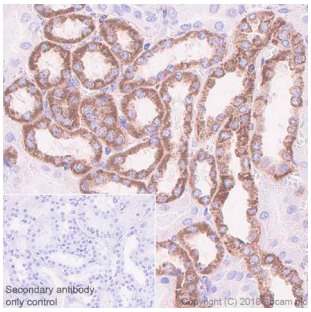
This data was developed using ab150423, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling Hexokinase 1 with Purified ab150423 at 1:50 dilution (4.1 µg/ml). Cells were fixed in 100% Methanol and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488,ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Flow Cytometry (Intracellular) staining using rabbit Anti-Hexokinase 1 antibody

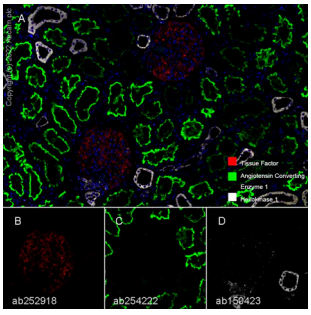
This data was developed using ab150423, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling Hexokinase 1 with Purified ab150423 at 1/20 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488 ,ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

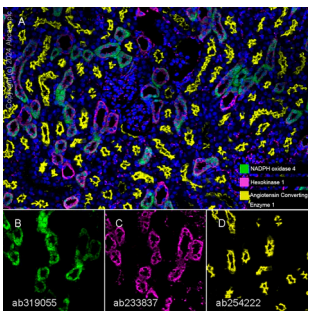
Hexokinase 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hexokinase 1 antibody

This data was developed using ab150423, the same antibody clone in a different buffer formulation.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human kidney tissue sections labeling Hexokinase 1 with purified ab150423 at 1/50 dilution (4.14 µg/mL). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Multiplex immunohistochemistry - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Fluorescence multiplex immunohistochemical analysis of paraffin-embedded Human kidney tissue. Panel A: Merged staining of anti-Hexokinase 1 (gray; Opal™690), anti-Angiotensin Converting Enzyme 1 (green; Opal™520) and anti-Tissue Factor (red; Opal™570) on human kidney. Panel B: Anti-Tissue Factor stained on renal glomeruli. Panel C: Anti-Angiotensin Converting Enzyme 1 stained on proximal tubules. Panel D: Anti-Hexokinase 1 stained on distal tubules. The section was incubated in three rounds of staining: in the order of ab150423, ab254222, and ab252918 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Counterstained with DAPI.



Multiplex immunohistochemistry - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Multiplex immunohistochemistry staining of Mouse kidney using rabbit Anti-Hexokinase 1 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse kidney tissue staining NADPH oxidase 4 with ab319055 at a 1:500 (1.032 ug/ml) dilution, ab233837 anti-Hexokinase 1 used at 1:250 (4.36 ug/ml) dilution and ab254222 anti-Angiotensin Converting Enzyme 1 used at a 1:4000 (0.132 ug/ml) dilution.

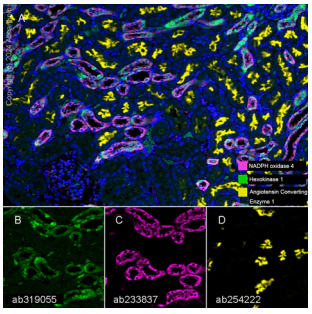
Panel A: merged staining of anti-NADPH oxidase 4 (green; Opal™520), anti-Hexokinase 1 (magenta; Opal™690) and anti-Angiotensin Converting Enzyme 1 (yellow; Opal™570) on mouse kidney.
Panel B: anti-NADPH oxidase 4 staining distal tubules in mouse kidney.
Panel C: anti-Hexokinase 1 staining distal tubules in mouse kidney.
Panel D: anti-Angiotensin Converting Enzyme 1 staining proximal tubules in mouse kidney.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab319055, ab233837 and ab254222 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Nuclear counter stain with DAPI.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Multiplex immunohistochemistry staining of Rat kidney using rabbit Anti-Hexokinase 1 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded rat kidney tissue staining NADPH oxidase 4 with ab319055 at a 1:500 (1.032 ug/ml) dilution, ab233837 anti-Hexokinase 1 used at 1:250 (4.36 ug/ml) dilution and ab254222 anti-Angiotensin Converting Enzyme 1 used at a 1:4000 (0.132 ug/ml) dilution.

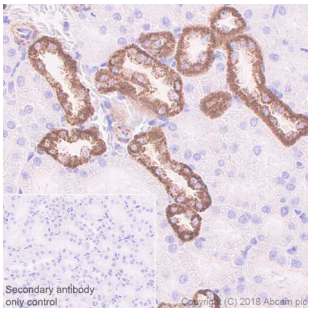
Panel A: merged staining of anti-NADPH oxidase 4 (green; Opal™520), anti-Hexokinase 1 (magenta; Opal™690) and anti-Angiotensin Converting Enzyme 1 (yellow; Opal™570) on rat kidney.
Panel B: anti-NADPH oxidase 4 staining distal tubules in rat kidney.
Panel C: anti-Hexokinase 1 staining distal tubules in rat kidney.
Panel D: anti-Angiotensin Converting Enzyme 1 staining proximal tubules in rat kidney.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab319055, ab233837 and ab254222 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Nuclear counter stain with DAPI.

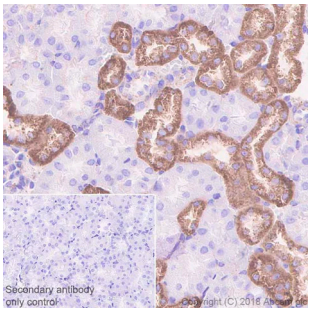
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hexokinase 1 antibody

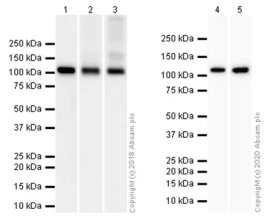
This data was developed using ab150423, the same antibody clone in a different buffer formulation.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat kidney tissue sections labeling Hexokinase 1 with purified ab150423 at 1/50 dilution (4.14 µg/mL). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Hexokinase 1 antibody

This data was developed using ab150423, the same antibody clone in a different buffer formulation.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse kidney tissue sections labeling Hexokinase 1 with purified ab150423 at 1/50 dilution (4.14 µg/mL). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Western blot staining using rabbit Anti-Hexokinase 1 antibody

All lanes:
Western blot - Anti-Hexokinase 1 antibody [EPR10134(B)] - Mitochondrial Outer Membrane Marker (ab150423) at 1/1000 dilution

Lane 1:
Human brain lysate at 15 µg

Lane 2:
Mouse brain lysate at 15 µg

Lane 3:
Rat brain lysate at 15 µg

Lane 4:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate at 15 µg

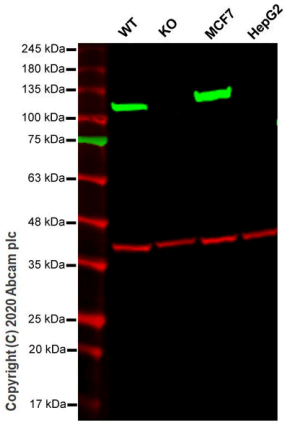
Lane 5:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate at 15 µg

Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 102 kDa



Western blot - Anti-Hexokinase 1 antibody [EPR10134(B)] - BSA and Azide free (ab233837)

Hexokinase 1 Western blot staining using rabbit Anti-Hexokinase 1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab150423).
Lanes 1-4: Merged signal (red and green). Green - ab150423 observed at 102 kDa. Red - loading control, ab8245 observed at 37 kDa.

ab150423 Anti-Hexokinase 1 antibody [EPR10134(B)] - Mitochondrial was shown to specifically react with Hexokinase 1 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab267279 (knockout cell lysate ab257161) was used. Wild-type and Hexokinase 1 knockout samples were subjected to SDS-PAGE. ab150423 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Hexokinase 1 antibody [EPR10134(B)] - Mitochondrial Outer Membrane Marker (ab150423) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
HK1 knockout HeLa cell lysate at 20 µg

Lane 3:
MCF7 cell lysate at 20 µg

Lane 4:
HEPG2 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 102 kDa

Observed band size: 102 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.