abcam

ab256454

Anti-Haptoglobin antibody [EPR22856-212]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22856-212
Purification technique	Affinity purification Protein A
Specificity	This antibody is not recommended for human IHC-P.
Concentration	0.725 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/5000
Notes	This antibody is not recommended for human IHC-P.

	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/5000
Notes	This antibody is not recommended for human IHC-P. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/700
Notes	-

Expected

Species	Rat, Human

Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information HP

Function	As a result of hemolysis, hemoglobin is found to accumulate in the kidney and is secreted in the urine. Haptoglobin captures, and combines with free plasma hemoglobin to allow hepatic recycling of heme iron and to prevent kidney damage. Haptoglobin also acts as an antioxidant, has antibacterial activity, and plays a role in modulating many aspects of the acute phase response. Hemoglobin/haptoglobin complexes are rapidly cleared by the macrophage CD163 scavenger receptor expressed on the surface of liver Kupfer cells through an endocytic lysosomal degradation pathway. The uncleaved form of allele alpha-2 (2-2), known as zonulin, plays a role in intestinal permeability, allowing intercellular tight junction disassembly, and controlling the equilibrium between tolerance and immunity to non-self antigens.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Haptoglobin (Hp) also known as Hp protein is a glycoprotein with a molecular weight ranging from 85 to 100 kDa varying due to its ability to form different dimeric and multimeric structures. It is primarily synthesized in the liver and circulating in the plasma. Mechanically haptoglobin binds free hemoglobin released from erythrocytes preventing oxidative damage and hemoglobin-driven deleterious effects. Haptoglobin's binding to hemoglobin forms a haptoglobin-hemoglobin complex that gets cleared by the CD163 receptor on macrophages mainly in the liver and spleen.
Biological function summary	Haptoglobin functions as an antioxidant and an acute phase protein playing roles in inflammation and immune response. It is an essential component of the antioxidant defense system reducing oxidative stress by binding free hemoglobin. Additionally haptoglobin can participate in complex formation with hemoglobin to facilitate the clearance of excess free hemoglobin from circulation. Its expression increases during inflammation under the regulation of cytokines like IL-6.
Pathways	The haptoglobin protein is part of the hemoglobin clearance pathway integral for iron metabolism and homeostasis. This pathway ensures the safe removal of hemoglobin from the blood helping to prevent kidney damage. Haptoglobin is related to other proteins such as CD163 and the liver-derived hepatocellular proteins involved in the clearance process. Also haptoglobin is linked to antioxidant pathways collaborating with oxidative stress regulators to manage reactive oxygen species levels.
Associated diseases and disorders	Changes in haptoglobin levels are associated with hemolytic anemia and inflammatory conditions. Low haptoglobin levels often suggest hemolytic anemia due to its rapid binding with free hemoglobin in the bloodstream. During inflammation and infections 'anti-Hp' tests (haptoglobin tests) may show increased haptoglobin levels as a response to cytokine signaling. Moreover haptoglobin polymorphisms have a connection with ischemic stroke susceptibility where its isoforms show differing efficiencies in binding free hemoglobin. These findings highlight haptoglobin's relevance as a biomarker for these conditions and illustrate its interaction with hematologic and immune proteins in disease contexts.

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.

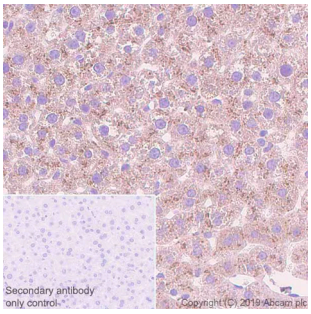
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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8 product images

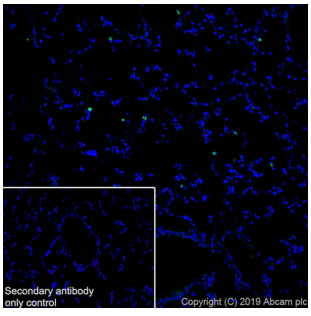


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Haptoglobin antibody [EPR22856-212] (ab256454)

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

Immunohistochemical analysis of paraffin-embedded rat liver tissue labeling Haptoglobin with ab256454 at 1/5000 dilution (0.149 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in rat liver. The section was incubated with ab256454 for 10 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.

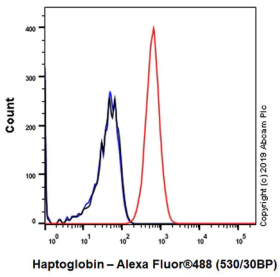


Immunohistochemistry (Frozen sections) - Anti-Haptoglobin antibody [EPR22856-212] (ab256454)

Haptoglobin Immunohistochemistry (Frozen sections) staining using rabbit Anti-Haptoglobin antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen section of rat lung tissue labeling Haptoglobin with ab256454 at 1/500 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution (green). The nuclear counter stain is DAPI (blue). Positive staining on alveolar epithelial type II cells of rat lung (PMID: 19501987).

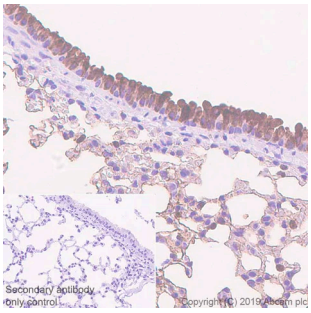
Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Flow Cytometry (Intracellular) - Anti-Haptoglobin antibody [EPR22856-212] (ab256454)

Haptoglobin Flow Cytometry (Intracellular) staining using rabbit Anti-Haptoglobin antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Hepa1-6 (mouse hepatoma epithelial cell) cells labeling Haptoglobin with ab256454 at 1/700 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

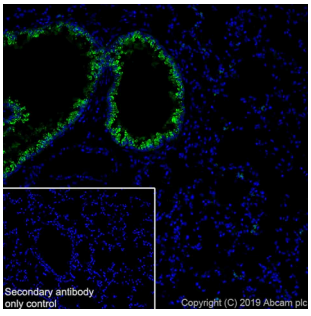


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Haptoglobin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Haptoglobin antibody

Immunohistochemical analysis of paraffin-embedded mouse lung tissue labeling Haptoglobin with ab256454 at 1/5000 dilution (0.149 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in mouse lung (PMID: 14697247). The section was incubated with ab256454 for 10 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

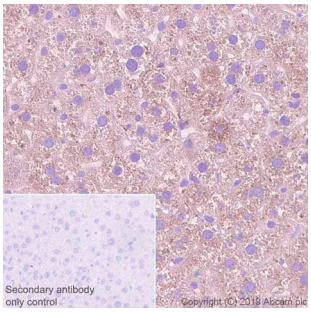
Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



Immunohistochemistry (Frozen sections) - Anti-Haptoglobin antibody [EPR22856-212] (ab256454)

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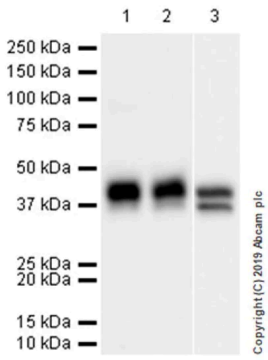


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Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



Western blot - Anti-Haptoglobin antibody [EPR22856-212] (ab256454)

Haptoglobin Western blot staining using rabbit Anti-Haptoglobin antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The molecular weight observed is consistent with what has been described in the literature (PMID:19805376, 16543473).

Exposure time: Lanes 1-2: 3 seconds; Lane 3: 10 seconds.

All lanes:
Western blot - Anti-Haptoglobin antibody [EPR22856-212] (ab256454) at 1/1000 dilution

Lane 1:
Human serum at 20 µg

Lane 2:
Human plasma at 20 µg

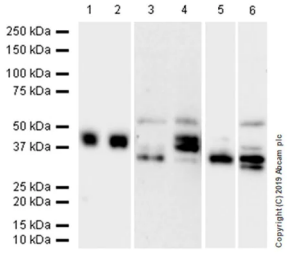
Lane 3:
Human liver lysate at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 45 kDa

Observed band size: 42 kDa, 45 kDa



Western blot - Anti-Haptoglobin antibody [EPR22856-212] (ab256454)

Haptoglobin Western blot staining using rabbit Anti-Haptoglobin antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID:19805376, 16543473).

Exposure time: Lanes 1-2:3 6 seconds; Lanes 3-4: 3minutes; Lane 5: 3 seconds; Lane 6: 59 seconds.
All lanes:
Western blot - Anti-Haptoglobin antibody [EPR22856-212] (ab256454) at 1/2000 dilution

Lane 1:
Mouse serum at 20 µg

Lane 2:
Mouse plasma at 20 µg

Lane 3:
Mouse liver lysate at 20 µg

Lane 4:
Mouse lung lysate at 20 µg

Lane 5:
Rat plasma at 20 µg

Lane 6:
Rat liver lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 45 kDa

Observed band size: 36 kDa, 42 kDa, 45 kDa, 52 kDa

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