abcam

ab251019

Anti-SERPINB1/PI2 antibody [EPR13299] - BSA and Azide free

Recombinant | RabMAb | 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	EPR13299
Concentration	1.018 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information SERPINB1

Function

Neutrophil serine protease inhibitor that plays an essential role in the regulation of the innate immune response, inflammation and cellular homeostasis (PubMed:30692621). Acts primarily to protect the cell from proteases released in the cytoplasm during stress or infection. These proteases are important in killing microbes but when released from granules, these potent enzymes also destroy host proteins and contribute to mortality. Regulates the activity of the neutrophil proteases elastase, cathepsin G, proteinase-3, chymase, chymotrypsin, and kallikrein-3 (PubMed:11747453, PubMed:30692621). Also acts as a potent intracellular inhibitor of GZMH by directly blocking its proteolytic activity (PubMed:23269243). During inflammation, limits the activity of inflammatory caspases CASP1, CASP4 and CASP5 by suppressing their caspase-recruitment domain (CARD) oligomerization and enzymatic activation (PubMed:30692621). When secreted, promotes the proliferation of beta-cells via its protease inhibitory function (PubMed:26701651).

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

ab251019 is the carrier-free version of ab190357.

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.

Supplementary info

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

Activity summary	SERPINB1 also known as PI2 functions as a serine protease inhibitor. It has an approximate mass of 42 kDa. Serine protease inhibitors play a role in regulating a variety of proteases to maintain cellular homeostasis. This protein mainly expresses in neutrophils epithelial cells and certain immune cells. By inhibiting neutrophil elastase and cathepsin G SERPINB1 protects tissues from protease-driven damage during inflammatory responses.
Biological function summary	SERPINB1 acts to control proteolytic activity and ensures regulated inflammatory responses. It does not form any known complexes but interacts directly with other proteases to modulate their activity. By neutralizing serine proteases SERPINB1 helps in maintaining the balance in immune cell functions. This regulation

	contributes to the prevention of excessive tissue damage during inflammation emphasizing its role in immune homeostasis.
Pathways	SERPINB1 participates in key regulatory processes such as immune response and protease inhibition pathways. It has a significant influence on pathways involving serine proteases like neutrophil elastase pathways. By interacting with these proteases SERPINB1 modulates their activities ensuring controlled inflammatory reactions and protection against tissue damage.
Associated diseases and disorders	SERPINB1 links to conditions like chronic obstructive pulmonary disease (COPD) and acute lung injury. These conditions often involve excessive proteolytic activity and SERPINB1 acts to counterbalance this to protect the lung tissue. Additionally the protein shows interactions with other proteins like alpha-1-antitrypsin which also acts as a serine protease inhibitor. The relationship between these proteins highlights their collective role in managing protease activity associated with lung diseases.

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

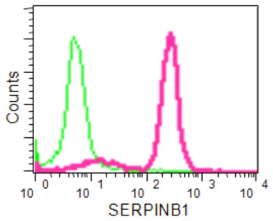
We do not recommend this combination. It is not covered by our product promise.

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.

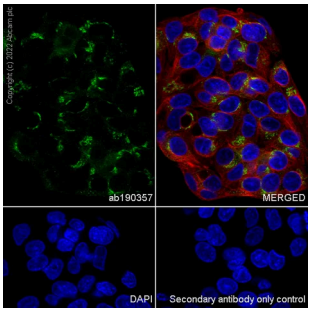
5 product images



Flow Cytometry (Intracellular) - Anti-SERPINB1/PI2 antibody [EPR13299] - BSA and Azide free (ab251019)

SERPINB1/PI2 Flow Cytometry (Intracellular) staining using rabbit Anti-SERPINB1/PI2 antibody

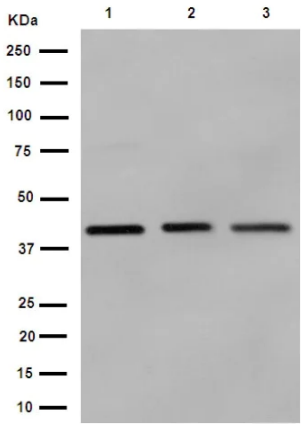
This data was developed using ab190357, the same antibody clone in a different buffer formulation.
Intracellular flow cytometrical analysis of U937 cells labeling SERPINB1/PI2 with ab190357 at 1/210 (red) compared to a Rabbit monoclonal IgG as an isotope control (green). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunocytochemistry/ Immunofluorescence - Anti-SERPINB1/PI2 antibody [EPR13299] - BSA and Azide free (ab251019)

SERPINB1/PI2 Immunocytochemistry/ Immunofluorescence staining of HepG2 (human hepatocellular carcinoma epithelial cell) cells using rabbit Anti-SERPINB1/PI2 antibody

Immunofluorescent analysis of 4% paraformaldehyde fixed and permeabilized with 0.1% Triton X-100 HepG2 (human hepatocellular carcinoma epithelial cell) cells labelling SERPINB1/PI2 with ab190357 at 1/100 dilution (10 µg/ml), followed by AlexaFluor®488 Goat anti-Rabbit secondary antibody (ab150077) at 1/1000 dilution (2 µg/ml) (green). Confocal image showing cytoplasmic staining in HepG2 cell line. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). DAPI was used as nuclear counterstain.
The negative controls are as follows:
-ve control 1: ab190357 at 1/100 dilution (10 µg/ml), followed by AlexaFluor®488 Goat anti-Rabbit secondary antibody (ab150077) at 1/1000 dilution (2 µg/ml).
-ve control 2: AlexaFluor®488 Goat anti-Rabbit secondary antibody (ab150077) at 1/1000 dilution (2 µg/ml).
This data was developed using ab190357, the same antibody clone in a different buffer formulation.



Western blot - Anti-SERPINB1/PI2 antibody [EPR13299] - BSA and Azide free (ab251019)

SERPINB1/PI2 Western blot staining using rabbit Anti-SERPINB1/PI2 antibody

This data was developed using ab190357, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-SERPINB1/PI2 antibody [EPR13299] - Membrane Vesicle Marker (ab190357) at 1/5000 dilution

Lane 1:
HepG2 cell lysate at 20 µg

Lane 2:
A549 cell lysate at 20 µg

Lane 3:
MCF7 cell lysate at 20 µg

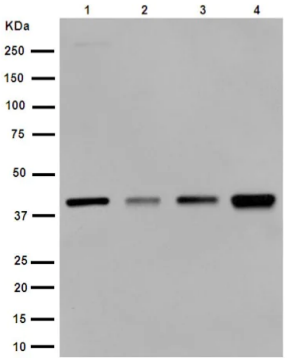
Secondary

All lanes:

Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 43 kDa

Observed band size: 43 kDa



Western blot - Anti-SERPINB1/PI2 antibody [EPR13299] - BSA and Azide free (ab251019)

This data was developed using ab190357, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-SERPINB1/PI2 antibody [EPR13299] - Membrane Vesicle Marker (ab190357) at 1/5000 dilution

Lane 1:
Human fetal kidney lysate at 20 µg

Lane 2:
Human fetal lung lysate at 20 µg

Lane 3:
Human fetal liver lysate at 20 µg

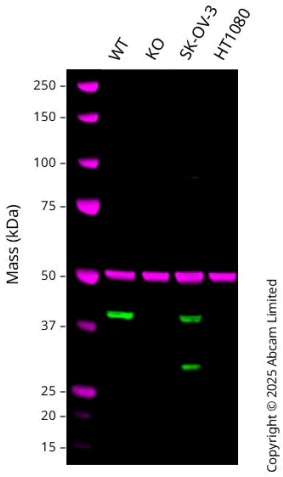
Lane 4:
Human stomach lysate at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 43 kDa

Observed band size: 43 kDa



Western blot - Anti-SERPINB1/PI2 antibody [EPR13299] - BSA and Azide free (ab251019)

SERPINB1/PI2 Western blot staining using rabbit Anti-SERPINB1/PI2 antibody

This data was developed using ab190357, the same antibody clone in a different buffer formulation.

Western blot: Anti-SERPINB1/PI2 antibody [EPR13299] - Membrane Vesicle Marker ab190357 staining at 1/5000 dilution, shown in green; Mouse anti alpha Tubulin (ab7291) loading control staining at 1/20,000 dilution, shown in magenta. A band was observed at 40 kDa in Wild-type A549 cell lysates with no signal observed at this size in SERPINB1 knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-SERPINB1/PI2 antibody [EPR13299] - Membrane Vesicle Marker (ab190357) at 1/5000 dilution

Lane 1:
Wild-type A549 at 20 µg

Lane 2:
SERPINB1 knockout A549 at 20 µg

Lane 3:
SK-OV-3 at 20 µg

Lane 4:
HT1080 at 20 µg

Secondary

Lanes 1 - 4:
Goat anti-Rabbit 800CW at 1/20000 dilution

Lanes 1 - 4:
Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 43 kDa

Observed band size: 40 kDa, 37 kDa

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