abcam

ab222929

Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free

Recombinant RabMAb

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	EPR19839
Purification technique	Affinity purification Protein A
Specificity	This antibody has been tested with overexpressing Prosurfactant Protein C samples in Western blot, ICC/IF and Flow cytometry.
Concentration	1.034 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	-
Notes	Antigen retrieval: Heated citrate solution (10mM citrate PH 6.0 + 0.05% Tween-20).

Not recommended

Species	Human
Dilution info	-

Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information Sftpc

Function	Pulmonary surfactant associated proteins promote alveolar stability by lowering the surface tension at the air-liquid interface in the peripheral air spaces.

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

ab222929 is the carrier-free version of ab211326.

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.

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.

What does low endotoxin mean?
Our low endotoxin, azide-free formats have low endotoxin level (1 EU/mg, determined by the TAL assay) and are free from azide, to achieve consistent experimental results in functional assays.

Supplementary info

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

Activity summary	Prosurfactant Protein C (Pro-SP-C) often referred to as SPC or by its abbreviated form SP-C is a hydrophobic peptide critical for lung function. This protein has a mass of approximately 21 kDa and is expressed prominently in the alveolar type II cells of the lung tissue. Beyond its full-length variant various pro forms such as proSP-C are studied for their roles during protein maturation and trafficking. These pro forms are essential for producing the mature functional SP-C a critical component of lung surfactant which reduces surface tension in alveoli and prevents lung collapse.
Biological function summary	In surfactant homeostasis Prosurfactant Protein C associates with surfactant protein complexes where it interacts with phospholipids like phosphatidylcholine to stabilize the alveolar structures. As part of this complex it aids in reducing surface tension at the air-liquid interface in the alveoli and contributes to the host defense system by fostering pathogen clearance and modulating inflammation. The intricate processing of Pro-SP-C into its mature form involves fucosylation and other post-translational modifications which are key for functional surfactant activity.
Pathways	The role of Prosurfactant Protein C is integral to the surfactant metabolism pathway affecting lung function and homeostasis. This pathway is important for proper respiratory mechanics and is closely linked to other surfactant proteins like SP-B and SP-D. These proteins work together within the lipid-protein matrix of the surfactant to ensure proper alveolar deflation and reinflation during respiration. Disruption within these pathways can have significant impact on lung health and respiratory physiology.
Associated diseases and disorders	Mutations or dysfunctions in Prosurfactant Protein C are linked to interstitial lung diseases including pulmonary alveolar proteinosis and idiopathic pulmonary fibrosis. These conditions often result from misfolded proteins or improper surfactant metabolism leading to compromised lung function. Connections with disorders like these highlight interactions between Prosurfactant Protein C and C-reactive protein uncovering underlying inflammatory processes. Therapy and research often target these protein interactions and modifications as understanding them holds potential for strategic intervention in surfactant-related pathologies.

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.

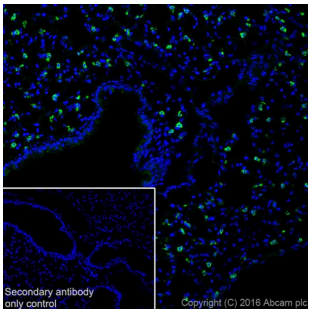
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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7 product images



Immunohistochemistry (Frozen sections) - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

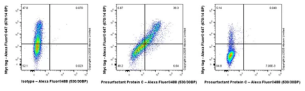
Prosurfactant Protein C Immunohistochemistry (Frozen sections) staining using rabbit Anti-Prosurfactant Protein C antibody

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen mouse lung tissue labeling Prosurfactant Protein C with ab211326 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Cytoplasmic staining on alveolar type II cells of mouse lung is observed [PMID: 23967208].

The nuclear counterstain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

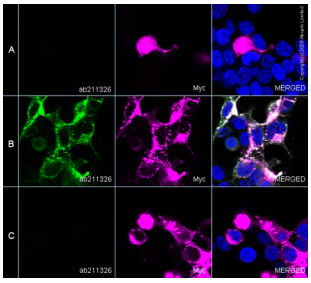
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab211326).



Flow Cytometry (Intracellular) - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

Prosurfactant Protein C Flow Cytometry (Intracellular) staining using rabbit Anti-Prosurfactant Protein C antibody

This data was developed using ab211326, the same antibody clone in a different buffer formulation.
Flow cytometry (intracellular) analysis of transfected 293T cells. Cells were fixed with 4% PFA for 10 minutes and permeabilised with 0.1% Tween-20 before staining for Prosurfactant Protein C in 293T cells transfected with a mouse SFTPC expression vector containing a myc-His-tag® (Middle panel). Staining was compared with 293T cells transfected with an empty expression vector containing a myc-His-tag® (Right panel) and with an isotype control, Rabbit monoclonal IgG (ab172730) (left panel). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) was used as the secondary antibody at a 1/5000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

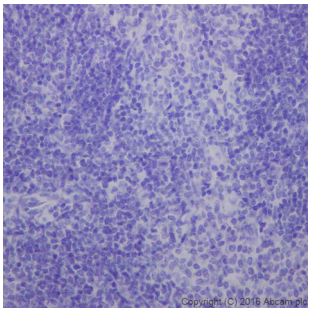
Prosurfactant Protein C Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Prosurfactant Protein C antibody

This image was produced using ab211326, the same clone but in a different formulation. Immunofluorescent analysis of 4% Paraformaldehyde fixed 0.1% Triton X-100 permeabilized transfected HEK-293T cells labelling Prosurfactant Protein C with ab211326 at 1/5000 dilution (0.207 µg/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody as secondary at 1/1000 (2 µg/ml) dilution. Confocal image showing cytoplasmic staining in 293T cells (shown in green) transfected with a mouse SFTPC expression vector containing a myc-His-tag®, showing no staining in 293T cells transfected a human SFTPC expression vector containing a myc-His-tag®. ab223894 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 594) at 1/100 (5µg/ml) was used as a counterstain (shown in magenta). Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Panel A: HEK-293T cells transfected with an empty expression vector containing a myc-His-tag®

Panel B: HEK-293T cells transfected with a mouse SFTPC expression vector containing a myc-His-tag®

Panel C: HEK-293T cells transfected with a human SFTPC expression vector containing a myc-His-tag®



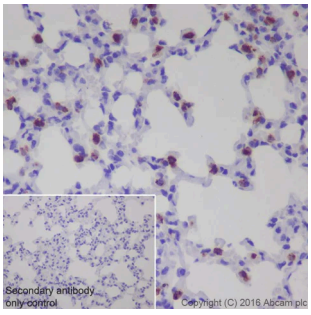
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

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

Immunohistochemical analysis of paraffin-embedded mouse spleen tissue labeling Prosurfactant Protein C with ab211326 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Negative control: no staining on mouse spleen. [PMID: 15186480]. Counter stained with Hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab211326).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

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

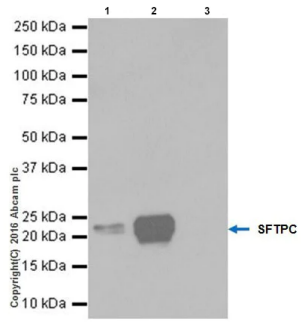
Immunohistochemical analysis of paraffin-embedded mouse lung tissue labeling Prosurfactant Protein C with ab211326 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Cytoplasmic staining on alveolar type II cells of mouse lung is observed [PMID: 15186480].

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab211326).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

SP-C was immunoprecipitated from 0.35 mg of mouse lung lysate with ab211326 at 1/40 dilution. Western blot was performed from the immunoprecipitate using ab211326 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

Lane 1: Mouse lung lysate, 10ug (Input).

Lane 2: ab211326 IP in mouse lung lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab211326 in mouse lung lysate.

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

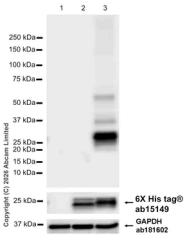
Exposure time: 5 seconds.

The banding pattern represents pro- and mature forms of SP-C.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab211326).
All lanes:
Immunoprecipitation - Anti-Prosurfactant Protein C antibody [EPR19839] (ab211326)

Predicted band size: 21 kDa

Observed band size: 21 kDa, 22 kDa



Western blot - Anti-Prosurfactant Protein C antibody [EPR19839] - Low endotoxin, Azide free (ab222929)

Prosurfactant Protein C Western blot staining using rabbit Anti-Prosurfactant Protein C antibody

This data was developed using ab211326, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution (36KDa).

In Western blot, Anti-6X His tag® antibody [AD1.1.10] total protein control (1/1000) (30KDa)

All lanes:
Western blot - Anti-Prosurfactant Protein C antibody [EPR19839] (ab211326) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) transfected with an empty vector containing a His-tag, whole cell lysate at 20 µg

Lane 2:
293T transfected with a human SFTPC expression vector containing a His-tag, whole cell lysate at 20 µg

Lane 3:
293T transfected with a mouse SFTPC expression vector containing a His-tag, whole cell lysate at 20 µg

Secondary

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

Observed band size: 21 kDa

Exposure time: 4s

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