abcam

ab240208

Anti-PSMC5 antibody [EPR13565(B)] - BSA and 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	EPR13565(B)
Purification technique	Affinity purification Protein A
Concentration	1.018 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Expected

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

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Perform heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0).

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat
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.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PSMC5

Function	Component of the 26S proteasome, a multiprotein complex involved in the ATP-dependent degradation of ubiquitinated proteins. This complex plays a key role in the maintenance of protein homeostasis by removing misfolded or damaged proteins, which could impair cellular functions, and by removing proteins whose functions are no longer required. Therefore, the proteasome participates in numerous cellular processes, including cell cycle progression, apoptosis, or DNA damage repair. PSMC5 belongs to the heterohexameric ring of AAA (ATPases associated with diverse cellular activities) proteins that unfolds ubiquitinated target proteins that are concurrently translocated into a proteolytic chamber and degraded into peptides.

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

ab240208 is the carrier-free version of ab178681.

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	PSMC5 also known as Tbp1 or Rpt6 is a component of the 26S proteasome complex that functions in the degradation of ubiquitinated proteins. This protein has a molecular mass of approximately 44 kDa. It shows a widespread pattern of expression being present in various tissues across the human body particularly in tissues with high metabolic activity. As an ATPase associated with diverse cellular activities the main mechanical function of PSMC5 is driving protein unfolding which is essential for proteasome activity.
Biological function summary	PSMC5 is integral to maintaining protein homeostasis and regulating protein turnover within cells. It forms part of the regulatory particle of the proteasome complex engaging in the recognition and unfolding of polyubiquitinated substrates. This action facilitates the degradation process important for numerous cellular processes including cell cycle apoptosis and DNA damage response. The presence of PSMC5 in these pathways indicates its involvement in pivotal cellular functions that regulate cell health and survival.
Pathways	PSMC5 plays a fundamental role in the ubiquitin-proteasome pathway a critical system for protein degradation and turnover. This pathway regulates the concentration of several key regulatory proteins therefore maintaining cellular homeostasis. PSMC5 interacts with other core proteasome components including PSMC1 and PSMC2. Additionally it contributes to the DNA repair pathways by interacting with proteins involved in genotoxic stress response underlining its significance in maintaining genomic stability.
Associated diseases and disorders	PSMC5 activity has associations with disorders such as cancer and neurodegenerative diseases. Dysregulation of the proteasome function may lead to aberrant protein accumulation which constitutes a factor in the development of these diseases. In cancer PSMC5 can interact with oncogenic pathways such as those involving proteins like MDM2 a ubiquitin ligase influencing tumorigenesis. Similarly in neurodegenerative disorders PSMC5's role in proteostasis connects it to proteins such as ubiquitin impacting disease progression.

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

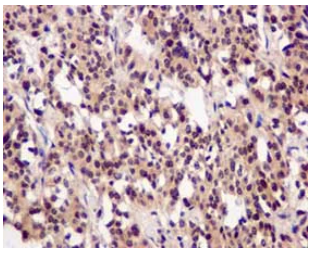
We do not recommend this combination. It is not covered by our product promise.

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.

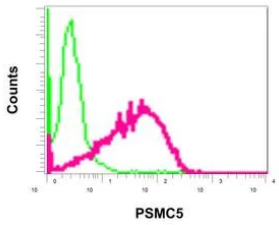
10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PSMC5 antibody

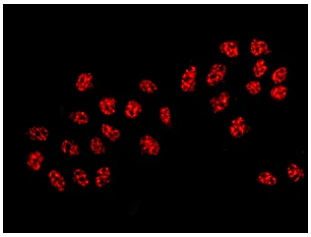
Immunohistochemical analysis of paraffin-embedded Human thyroid carcinoma tissue labeling PSMC5 with unpurified ab178681 at 1/50 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681).



Flow Cytometry (Intracellular) - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Flow Cytometry (Intracellular) staining using rabbit Anti-PSMC5 antibody

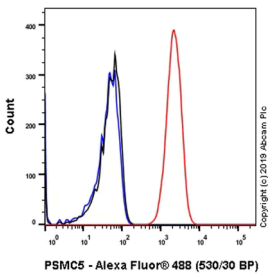
Intracellular flow cytometric analysis of permeabilized Hela cellslabeling PSMC5 withunpurified ab178681 at 1/100 dilution (red) compared to a rabbit IgG negative control (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681).



Immunocytochemistry/ Immunofluorescence - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PSMC5 antibody

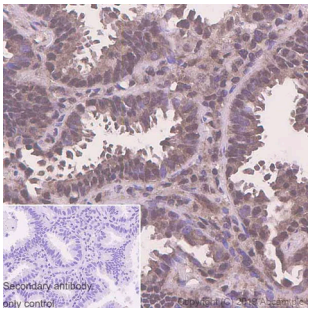
Immunofluorescent analysis of HeLa cells labeling PSMC5 with unpurified ab178681 at 1/100 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681).



Flow Cytometry (Intracellular) - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Flow Cytometry (Intracellular) staining using rabbit Anti-PSMC5 antibody

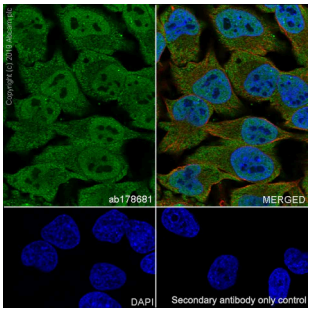
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PSMC5 with purified ab178681 at 1/90 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) 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). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PSMC5 antibody

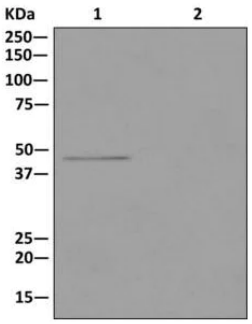
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung carcinoma tissue sections labeling PSMC5 with Purified ab178681 at 1/2000 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681)



Immunocytochemistry/ Immunofluorescence - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PSMC5 antibody

Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PSMC5 with Purifiedab178681 at 1/500 dilution (1.7 µg/ml). Cells were fixed in 4% Paraformaldehyde 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (anti psmc5 antibody epr13565 b immunocytochemistry hela human)



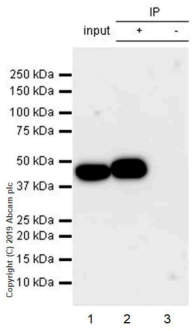
Immunoprecipitation - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

Western blot analysis on immunoprecipitation pellet from (Lane 1) 293T cell lysate or (Lane 2) 1XPBS (negative control) using unpurified ab178681 and HRP-conjugated anti-rabbit IgG preferentially detecting the non-reduced form of rabbit IgG.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681).

All lanes:
Immunoprecipitation - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

Predicted band size: 44 kDa, 46 kDa

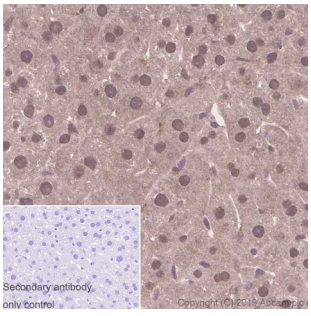
Observed band size: 75 kDa



Immunoprecipitation - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

ab178681 (Purified) at 1:40 dilution (2µg) immunoprecipitating PSMC5 in HepG2 whole cell lysate.
Lane 1 (input): HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate (10µg)
Lane 2 (+): ab178681 & HepG2 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab178681 in HepG2 whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (anti psmc5 antibody epr13565 b immunoprecipitation hepg2 human)
All lanes:
Immunoprecipitation - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

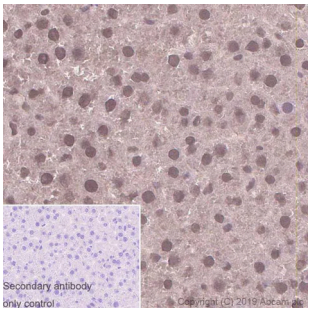
Predicted band size: 46 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PSMC5 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse liver tissue sections labeling PSMC5 with Purified ab178681 at 1/2000 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] - BSA and Azide free (ab240208)

PSMC5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PSMC5 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling PSMC5 with Purified ab178681 at 1/2000 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab178681)

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