abcam

ab178681

Anti-PSMC5 antibody [EPR13565(B)]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR13565(B)
Purification technique	Affinity purification Protein A
Concentration	0.865 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1/10000 - 1/50000.**

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	**For unpurified use at 1/50 - 1/100.** Perform heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0).

Species	Rat
Dilution info	1/2000
Notes	**For unpurified use at 1/50 - 1/100.** Perform heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0).

Species	Human
Dilution info	1/2000
Notes	**For unpurified use at 1/50 - 1/100.**

Perform heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0).

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/90 - 1/500
Notes	ab172730 - 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 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	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	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

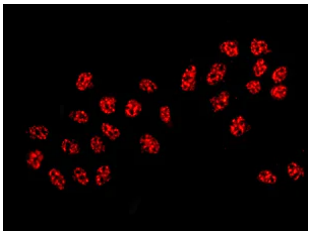
We do not recommend this combination. It is not covered by our product promise.

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.

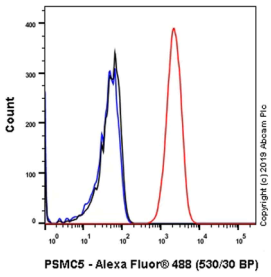
12 product images



Immunocytochemistry/ Immunofluorescence - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

PSMC5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PSMC5 antibody

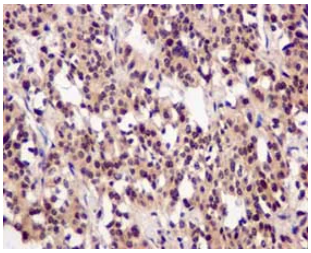
Immunofluorescent analysis of HeLa cells labeling PSMC5 with unpurified ab178681 at 1/100 dilution.



Flow Cytometry (Intracellular) - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

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

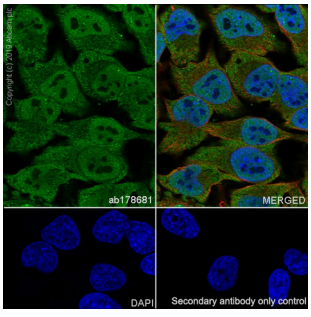
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PSMC5 with purified ab178681 at 1/90 dilution (10µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) 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-PSMC5 antibody [EPR13565(B)] (ab178681)

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

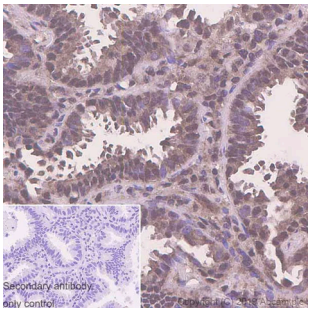
Immunohistochemical analysis of paraffin-embedded Human thyroid carcinoma tissue labeling PSMC5 with unpurified ab178681 at 1/50 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

PSMC5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PSMC5 antibody

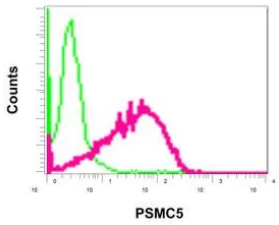
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PSMC5 with Purifiedab178681 at 1/500 dilution (1.7 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% triton X-100. Cells were counterstained with ab195889 Anti-alpha 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

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

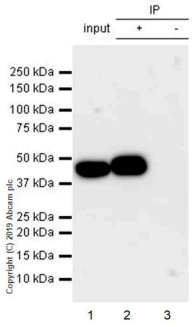
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung carcinoma tissue sections labeling PSMC5 with Purified ab178681 at 1/2000 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific 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.



Flow Cytometry (Intracellular) - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

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

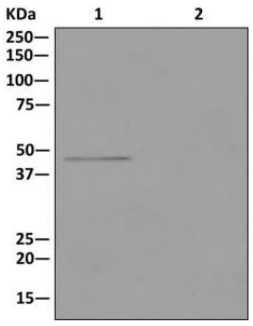
Intracellular flow cytometric analysis of permeabilized Hela cellslabeling PSMC5 with unpurified ab178681 at 1/100 dilution (red) compared to a rabbit IgG negative control (green).



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

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

Predicted band size: 46 kDa

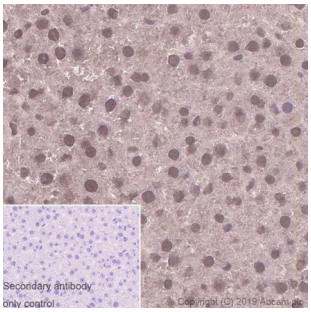


Immunoprecipitation - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

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

Predicted band size: 44 kDa, 46 kDa

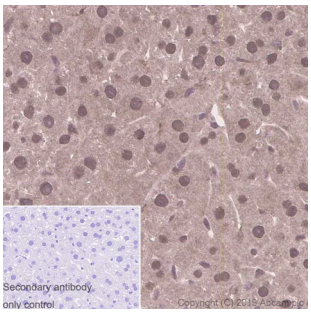
Observed band size: 75 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

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

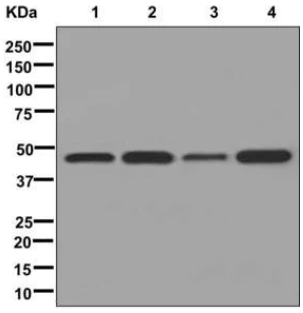
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling PSMC5 with Purified ab178681 at 1/2000 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

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.



Western blot - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

All lanes:
Western blot - Anti-PSMC5 antibody [EPR13565(B)] (ab178681) at 1/10000 dilution

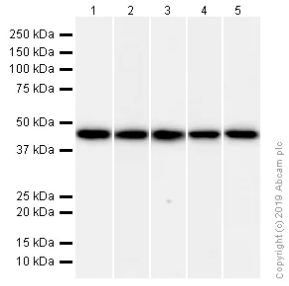
Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

Lane 3:
A431 cell lysate at 10 µg

Lane 4:
293T cell lysate at 10 µg

Predicted band size: 46 kDa



Western blot - Anti-PSMC5 antibody [EPR13565(B)] (ab178681)

All lanes:
Western blot - Anti-PSMC5 antibody [EPR13565(B)] (ab178681) at 1/1000 dilution

Lane 1:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
A431 (Human epidermoid carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 3:
Mouse heart lysates at 20 µg

Lane 4:
Mouse brain lysates at 20 µg

Lane 5:
Rat brain lysates at 20 µg

Secondary

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

Predicted band size: 46 kDa

Observed band size: 46 kDa

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