abcam

ab250700

Anti-PSME2 antibody [EPR14931] - 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	EPR14931
Purification technique	Affinity purification Protein A
Concentration	1.02 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

I-ELISA

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information Proteasome activator complex subunit 2

Function	Implicated in immunoproteasome assembly and required for efficient antigen processing. The PA28 activator complex enhances the generation of class I binding peptides by altering the cleavage pattern of the proteasome.

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

ab250700 is the carrier-free version of ab183727.

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	PSME2 also known as PA28β or Proteasome Activator Subunit 2 is a regulatory protein with a molecular mass of approximately 28 kDa. It forms a part of the 11S regulator complex which modulates proteasome activities specifically the 20S proteasome. PSME2 is important in facilitating the degradation of endogenous proteins by opening the gate on the 20S proteasome core. It consistently expresses in various tissues with notable expression in immune-related tissues such as the spleen and thymus indicating its significant role in immune system functions.
Biological function summary	PSME2 participates in immunoproteasome formation impacting antigen processing and presentation. It binds to the 20S proteasome core facilitating a switch in proteolytic activities that enable the generation of peptide fragments suited for MHC class I molecule presentation. The biological function of PSME2 is critical in adaptive immune responses where it increases the efficiency and specificity of antigen processing. As part of the PA28 protein complex PSME2 partners with other subunits like PSME1 to enhance the degradation of oxidized proteins contributing to cellular homeostasis.
Pathways	Studies highlight PSME2’s involvement in the ubiquitin-proteasome pathway an important process for intracellular protein degradation. This pathway handles the removal of misfolded or damaged proteins and PSME2’s interaction with the 20S proteasome reflects its necessity for effective proteostasis. Additionally PSME2 acts in coordination with other proteasome subunits and cofactors such as PSME3 to modulate activity rates in response to cellular signals therefore integrating cellular responses to stress and damage repairs.

Associated diseases and disorders	Researchers often link PSME2 to autoimmune diseases and cancer. In autoimmune conditions improper processing of antigens due to altered PSME2 function can lead to inappropriate immune responses with PSME2's altered expression observed in diseases like rheumatoid arthritis. With respect to cancer PSME2's impact on antigen presentation affects tumor immune surveillance where reduced activity might allow immune evasion by cancer cells. Its relationship with the proteasome suggests connections with pathways involving proteins like β-catenin which play roles in disease progression and immune system evasion strategies.

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

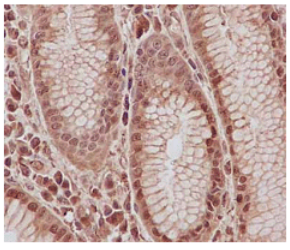
We do not recommend this combination. It is not covered by our product promise.

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



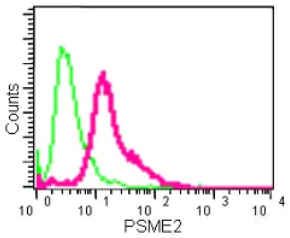
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PSME2 antibody

This data was developed using ab183727, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded Human stomach tissue labeling PSME2 with ab183727 at 1/100 dilution, followed by pre-diluted HRP-conjugated secondary antibody and counter-stained with Hematoxylin.

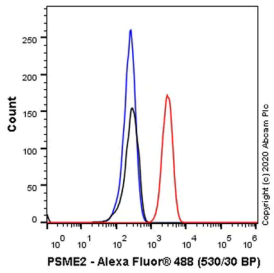
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Flow Cytometry (Intracellular) staining using rabbit Anti-PSME2 antibody

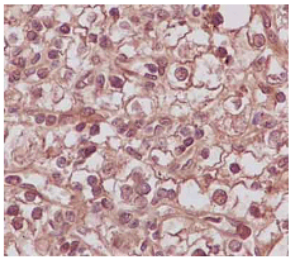
This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of HeLa cells (paraformaldehyde-fixed, 2%) labeling PSME2 with ab183727 at 1/210 dilution (red) or a rabbit IgG (negative) (green), followed by Goat anti rabbit IgG (FITC) secondary at 1/150 dilution.



Flow Cytometry (Intracellular) - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Flow Cytometry (Intracellular) staining using rabbit Anti-PSME2 antibody

This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HepG2 (Human hepatocellular carcinoma epithelial cell) cells labelling PSME2 with ab183727 at 1/500 dilution (0.1µg) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled 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.

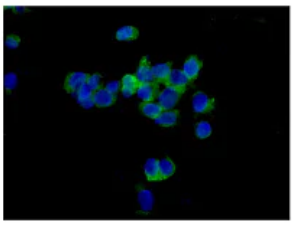


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PSME2 antibody

This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human kidney clear cell carcinoma tissue labeling PSME2 with ab183727 at 1/100 dilution, followed by pre-diluted HRP-conjugated secondary antibody and counter-stained with Hematoxylin.

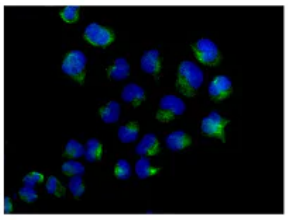
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PSME2 antibody

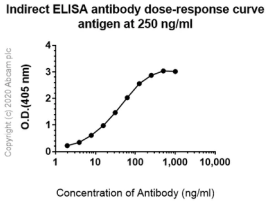
This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of HepG2 cells (paraformaldehyde-fixed, 4%) labeling PSME2 with ab183727 at 1/500 dilution, followed by Goat anti rabbit IgG (AlexaFluor® 488) secondary at 1/200 dilution and counter-stained with DAPI (blue).



Immunocytochemistry/ Immunofluorescence - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

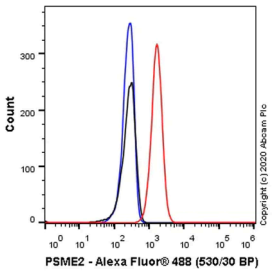
PSME2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PSME2 antibody

This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of HeLa cells (-20°C acetone-fixed) labeling PSME2 with ab183727 at 1/500 dilution, followed by Goat anti rabbit IgG (AlexaFluor® 488) secondary at 1/200 dilution and counter-stained with DAPI (blue).



Indirect ELISA - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

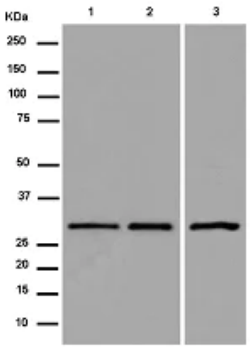
This data was developed using ab183727, the same antibody clone in a different buffer formulation.ELISA analysis of Human PSME2 recombinant protein at 250 ng/mL with ab183727. An Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/2500 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Flow Cytometry (Intracellular) staining using rabbit Anti-PSME2 antibody

This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Neuro-2a (Mouse neuroblastoma neuroblast) cells labelling PSME2 with ab183727 at 1/500 dilution (0.1µg) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled 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.



Western blot - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

PSME2 Western blot staining using rabbit Anti-PSME2 antibody

This data was developed using ab183727, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-PSME2 antibody [EPR14931] (ab183727) at 1/10000 dilution

Lane 1:
HeLa cell lysate at 20 µg

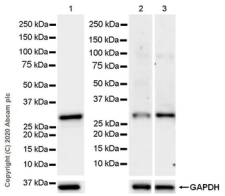
Lane 2:
PC3 cell lysate at 20 µg

Lane 3:
HepG2 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 27 kDa



Western blot - Anti-PSME2 antibody [EPR14931] - BSA and Azide free (ab250700)

This data was developed using ab183727, the same antibody clone in a different buffer formulation.
Exposure times:

Lane 1: 3.25 seconds

Lane 2: 3 minutes

Blocking Buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-PSME2 antibody [EPR14931] (ab183727) at 1/1000 dilution

Lane 1:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Lane 2:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Lane 3:
4T1 (mouse mammary gland carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

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

Predicted band size: 27 kDa

Observed band size: 27 kDa

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