abcam

ab3316

Anti-Proteasome 26S S3/PSMD3 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human PSMD3 aa 500-550. The exact immunogen used to generate this antibody is proprietary information. Database link O43242
Purification technique	Affinity purification Immunogen
Specificity	Detects proteasome 26S subunit S3.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1-20 µg/mL
Notes	-

Expected

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

Predicted

Species	Cow, Primates
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50 - 1/500
Notes	-

Species	Human
Dilution info	1/50 - 1/500
Notes	-

Predicted

Species	Cow, Primates
Dilution info	-
Notes	-

Target data

See full target information PSMD3

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.

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	The Proteasome 26S S3 also known as PSMD3 is an essential component of the 26S proteasome complex which plays a critical role in degrading ubiquitinated proteins. It has a molecular mass of approximately 61 kDa and is important in maintaining protein homeostasis by regulating protein degradation. The 26S proteasome is expressed ubiquitously in eukaryotic cells indicating its importance in various cellular processes. Its activity ensures the removal of damaged or misfolded proteins which is necessary for proper cellular function and survival.
Biological function summary	Proteasome 26S S3 forms an integral part of the 26S proteasome a large complex involved in the ATP-dependent breakdown of proteins. This complex is essential for many cellular functions including cell cycle progression signal transduction and stress responses. By facilitating protein degradation Proteasome 26S S3 helps regulate the quantity and quality of proteins within the cell. It interacts with other proteasomal components to mediate the recognition and unfolding of target proteins enabling their subsequent degradation into smaller peptides.
Pathways	The Proteasome 26S S3 participates in the ubiquitin-proteasome pathway and the NF-κB signaling pathway. These pathways are pivotal in controlling protein turnover and are involved in cellular responses to various stimuli. Within the ubiquitin-proteasome pathway PSMD3 collaborates with other proteasome components to execute protein degradation processes. In the NF-κB pathway PSMD3 influences the degradation of IκB proteins allowing the activation of NF-κB transcription factors which regulate immune and inflammatory responses.

Associated diseases and disorders	Dysregulation of Proteasome 26S S3 activity has links to cancer and neurodegenerative diseases. Abnormal proteasome function can result in the accumulation of damaged proteins contributing to the pathogenesis of these conditions. In cancer alterations in the proteasome function can lead to uncontrolled cell growth and survival where PSMD3 interacts with proteins like p53 and Bcl-2 affecting apoptosis and cell cycle regulation. In neurodegenerative diseases compromised proteasome activity may lead to the accumulation of misfolded proteins exacerbating conditions such as Alzheimer's or Parkinson's disease.

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

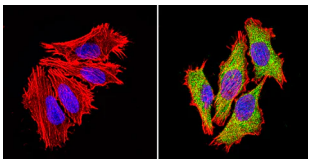
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

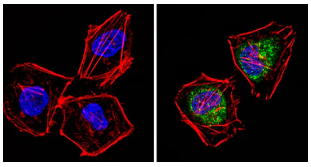


Immunocytochemistry/ Immunofluorescence - Anti-Proteasome 26S S3/PSMD3 antibody (ab3316)

Proteasome 26S S3/PSMD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Proteasome 26S S3/PSMD3 antibody

Immunocytochemistry/Immunofluorescence analysis of Proteasome 26S S3/PSMD3 (green) showing staining in the cytoplasm and nucleus of A549 cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells

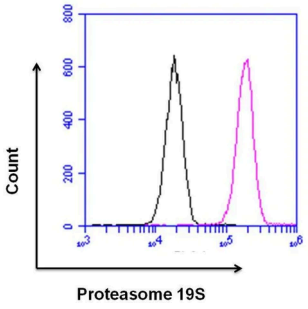
were incubated with ab3316 in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.



Immunocytochemistry/ Immunofluorescence - Anti-Proteasome 26S S3/PSMD3 antibody (ab3316)

Proteasome 26S S3/PSMD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Proteasome 26S S3/PSMD3 antibody

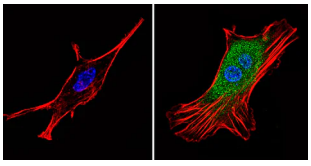
Immunocytochemistry/Immunofluorescence analysis of Proteasome 26S S3/PSMD3 (green) showing staining in the cytoplasm and nucleus of HeLa cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were incubated with ab3316 in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.



Flow Cytometry - Anti-Proteasome 26S S3/PSMD3 antibody (ab3316)

Proteasome 26S S3/PSMD3 Flow Cytometry staining using rabbit Anti-Proteasome 26S S3/PSMD3 antibody

Flow Cytometry analysis of HeLa cells labelng Proteasome 26S S3/PSMD3 with ab3316 (Pink) or a rabbit IgG isotype control (Black) 10 µg/mL. Goat anti-Rabbit IgG (H+L) Superclonal™ Alexa Fluor® 647 conjugate at a dilution of 1/50 was used as the Secondary Antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Proteasome 26S S3/PSMD3 antibody (ab3316)

Proteasome 26S S3/PSMD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Proteasome 26S S3/PSMD3 antibody

Immunocytochemistry/Immunofluorescence analysis of Proteasome 26S S3/PSMD3 (green) showing staining in the cytoplasm and nucleus of NIH-3T3 cells (right) compared to a negative control without primary antibody (left). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were incubated with ab3316 in 3% BSA-PBS at a dilution of 1:100 and incubated overnight at 4°C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight-conjugated secondary antibody in PBS at room temperature in the dark. F-actin (red) was stained with a fluorescent red phalloidin and nuclei (blue) were stained with Hoechst or DAPI. Images were taken at a magnification of 60x.

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