abcam

ab20239

Anti-Proteasome 19S S5A/ASF antibody [AH1.1]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Clone number	AH1.1
Purification technique	Affinity purification Protein A/G
Light chain type	unknown
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information PSMD4

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. PSMD4 acts as an ubiquitin receptor subunit through ubiquitin-interacting motifs and selects ubiquitin-conjugates for destruction. Displays a preferred selectivity for longer polyubiquitin chains.

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 19S S5A also known as ASF or AH1 is a critical component of the proteasome complex. It is a regulatory particle of the 19S proteasome responsible for recognizing and binding polyubiquitin chains during protein degradation. This protein weighs approximately 48 kDa and is predominantly expressed in the cytoplasm and nucleus of eukaryotic cells. Its primary function is to facilitate the opening of the 20S core particle allowing for substrate entry into the proteasome for subsequent degradation.
Biological function summary	The 19S S5A operates as part of a larger proteasome complex involved in maintaining protein homeostasis. It ensures efficient degradation of ubiquitinated proteins by the 26S proteasome system playing a role in cell cycle regulation signal transduction and stress responses. The S5A subunit specifically binds ubiquitin regulating the availability of substrates subject to proteolysis which is critical for the timely removal of damaged or misfolded proteins and the regulation of various intracellular processes.
Pathways	The 19S S5A participates in the ubiquitin-proteasome pathway which is critical for protein turnover and quality control in cells. It interacts with proteins such as E3 ubiquitin ligases which tag substrates with ubiquitin chains for degradation. This process is also a part of the NF-kB signaling pathway where the proteasome degrades IκB proteins leading to the activation of NF-kB and modulation of immune responses.
Associated diseases and disorders	The 19S S5A subunit has been implicated in several pathological conditions including cancer and neurodegenerative diseases. Dysregulation of the ubiquitin-proteasome system in which 19S S5A plays a role can lead to the accumulation of damaged or misfolded proteins contributing to disorders like Parkinson's and Alzheimer's disease. Abnormal activity of associated proteins such as ubiquitin ligases and other proteasome subunits often correlates with the progression of malignancies and neurodegenerative processes.

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.

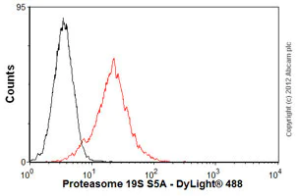
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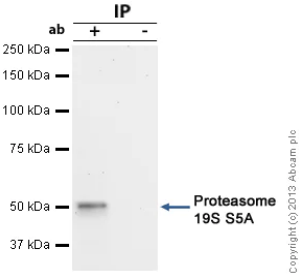
2 product images



Flow Cytometry - Anti-Proteasome 19S S5A/ASF antibody [AH1.1] (ab20239)

Proteasome 19S S5A/ASF Flow Cytometry staining using mouse Anti-Proteasome 19S S5A/ASF antibody

Overlay histogram showing HeLa cells stained with ab20239 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab20239, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Immunoprecipitation - Anti-Proteasome 19S S5A/ASF antibody [AH1.1] (ab20239)

Proteasome 19S S5A/ASF was immunoprecipitated using 0.5mg Hela whole cell extract, 5µg of Mouse monoclonal to Proteasome 19S S5A/ASF and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Hela whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab20239.

Secondary: Goat polyclonal to mouse IgG light chain specific (HRP) at 1/20,000 dilution.

Band: 41kDa; Proteasome 19S S5A/ASF
All lanes:
Immunoprecipitation - Anti-Proteasome 19S S5A/ASF antibody [AH1.1] (ab20239)

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 40 kDa

Exposure time: 20min

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