abcam

ab22674

Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody [MCP231]

Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody [MCP231] (ab22674) is a mouse monoclonal antibody detecting Proteasome 20S alpha 1+2+3+5+6+7 in **Flow Cytometry, ICC/IF**. Suitable for **Human**.

- Over 20 publications
- Trusted since 2005

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Full Length Protein corresponding to Human PSMA1. The exact immunogen used to generate this antibody is proprietary information. Database link P25786
Clone number	MCP231
Purification technique	Affinity purification Protein G
Epitope	Reacts with the peptide sequence TVWSPQGRLHQVEYAMEA encompassing the prosbox I motif common to alpha type subunits, although not necessarily identical in all. In general this motif is phylogenetically preserved.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	Does not immunoprecipitate intact proteasomes from HeLa cell preparations.

Flow Cyt

Tested

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information PSMA1

Function

Component of the 20S core proteasome complex involved in the proteolytic degradation of most intracellular proteins. This complex plays numerous essential roles within the cell by associating with different regulatory particles. Associated with two 19S regulatory particles, forms the 26S proteasome and thus participates in the ATP-dependent degradation of ubiquitinated proteins. The 26S proteasome plays a key role in the maintenance of protein homeostasis by removing misfolded or damaged proteins that could impair cellular functions, and by removing proteins whose functions are no longer required. Associated with the PA200 or PA28, the 20S proteasome mediates ubiquitin-independent protein degradation. This type of proteolysis is required in several pathways including spermatogenesis (20S-PA200 complex) or generation of a subset of MHC class I-presented antigenic peptides (20S-PA28 complex).

Storage

Shipped at conditions	Blue Ice
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

What is this antibody validated in?
Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody [MCP231] (ab22674) is a mouse monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

Trusted by the scientific community
Anti-Proteasome 20S alpha 1+2+3+5+6+7 [MCP231] (ab22674) was first used in a scientific publication in 2005 and has been cited over 20 times in peer-reviewed journals.

Reviewed by scientists
Anti-Proteasome 20S alpha 1+2+3+5+6+7 [MCP231] (ab22674) has over 5 independent reviews from customers.

Supplementary info

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

Activity summary	The Proteasome 20S alpha subunits (also known as proteasome marker proscrate) are parts of the core structure of the 20S proteasome. This target features the six alpha subunits: alpha 1 alpha 2 alpha 3 alpha 5 alpha 6 and alpha 7. These alpha subunits collectively form the gate of the proteolytic chamber regulating substrate entry. The mass of the entire 20S proteasome complex is around 700 kDa. This target is ubiquitously expressed in eukaryotic cells playing a critical role in protein degradation.
Biological function summary	The 20S alpha subunit functions as part of the larger 26S proteasome complex which includes other components such as 19S regulatory particles. It facilitates protein turnover by degrading misfolded damaged or unneeded proteins into peptides. The 20S proteasome subunits' activity is essential in maintaining cellular homeostasis and controlling the concentration of specific proteins. They contribute to processes like cell cycle regulation and antigen presentation.
Pathways	The 20S proteasome involves itself directly in the ubiquitin-proteasome pathway a fundamental pathway for protein degradation. It is an important player in the immune response pathway aiding in processing peptides for major

	histocompatibility complex (MHC) class I antigen presentation. This function connects the 20S proteasome to other proteins such as ubiquitin and molecules involved in antigen processing.
Associated diseases and disorders	Dysregulation of 20S proteasome activity associates with conditions such as cancer and neurodegenerative diseases. In cancer increased proteasome activity supports rapid cell division by degrading cell cycle inhibitors. Furthermore research links impaired proteasome function in neurodegenerative disorders such as Alzheimer's disease where inefficient protein degradation leads to the accumulation of toxic protein aggregates. The target connects to proteins like amyloid precursor protein in Alzheimer's emphasizing the critical role of proteasome subunits in disease pathogenesis.

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

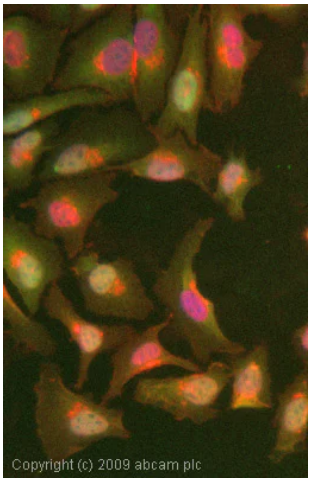
We do not recommend this combination. It is not covered by our product promise.

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.

2 product images

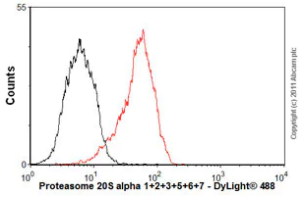


Immunocytochemistry/ Immunofluorescence - Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody [MCP231] (ab22674)

Proteasome 20S alpha 1+2+3+5+6+7 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody

ICC/IF image of ab22674 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab22674, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

This image was generated using the ascites version of the product.



Flow Cytometry - Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody [MCP231] (ab22674)

Proteasome 20S alpha 1+2+3+5+6+7 Flow Cytometry staining using mouse Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody

Overlay histogram showing HepG2 cells stained with ab22674 (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 (ab22674, 2µg/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. This image was generated using the ascites version of the product.

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