abcam

Product datasheet

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

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Overview

Product name	Anti-Proteasome 20S alpha 1+2+3+5+6+7 antibody [MCP231]
Description	Mouse monoclonal [MCP231] to Proteasome 20S alpha 1+2+3+5+6+7
Host species	Mouse
Tested applications	**Suitable for:** Flow Cyt, ICC/IF **Unsuitable for:** IP
Species reactivity	**Reacts with:** Human **Predicted to work with:** a wide range of other species
Immunogen	Full length protein corresponding to Proteasome 20S alpha 1+2+3+5+6+7. Dinitrophenylated proteasomes
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.
Positive control	Human placental proteasome.
General notes	This product was changed from ascites to tissue culture supernatant on 22nd May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team. Dilute antibody to working dilution in PBS, pH 7.2 - 7.4. Store at 4°C and use within 1 month. Store unopened vial at -20°C for long term storage. Avoid freeze/thaw cycles. This antibody reacts with six different alpha type subunits:- alpha 1, 2, 3, 5 , 6 and 7. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	Preservative: 0.01% Sodium azide Constituent: 99% PBS
Purity	Protein G purified
Primary antibody notes	This antibody reacts with six different alpha type subunits:- alpha 1, 2, 3, 5 , 6 and 7.
Clonality	Monoclonal
Clone number	MCP231
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab22674 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use at an assay dependent concentration. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
ICC/IF	★★★★★ (1)	Use at an assay dependent concentration.

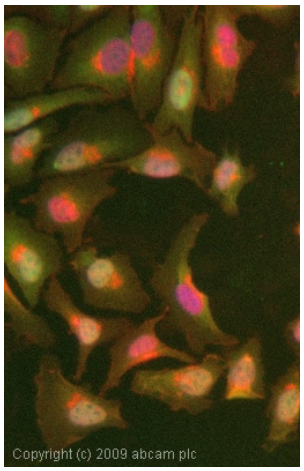
Application notes Is unsuitable for IP.

Target

Relevance The proteasome is widely recognised as the central enzyme of non lysosomal protein degradation. It is responsible for intracellular protein turnover and it is also critically involved in many regulatory processes and, in higher eukaryotes, in antigen processing. The 26S proteasome is the key enzyme of the ubiquitin/ATP dependent pathway of protein degradation. The catalytic core of this unusually large complex is formed by the 20S proteasome, a barrel shaped structure shown by electron microscopy to comprise of four rings each containing seven subunits. Based on sequence similarity, all fourteen 20S proteasomal subunit sequences may be classified into two groups, alpha and beta, each group having distinct structural and functional roles. The alpha subunits comprise the outer rings and the beta subunits the inner rings of the 20S proteasome. Observations of the eukaryotic proteasome and analysis of subunit sequences indicate that each ring contains seven different subunits (alpha7/beta7/beta7/alpha7) with a member of each sub family represented in each particle. Each subunit is located in a unique position within the alpha or beta rings. 20S Proteasomes degrade only unfolded proteins in an energy independent manner, whereas 26S proteasomes degrade native and ubiquitinylated proteins in an ATP dependent manner. The native protein substrates are recognised by subunits, some with ATP binding sites, of the outer 19S caps of the 26S proteasome.

Cellular localization Cytoplasmic and Nuclear

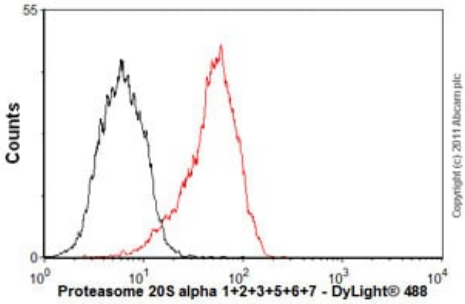
Images



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

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)

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.

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