abcam

ab247883

Anti-Proteasome 20S alpha 2/HC3 antibody [EPR5454] - 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	EPR5454
Purification technique	Affinity purification Protein A
Concentration	1.009 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PSMA2

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	+4°C
Storage information	Do Not Freeze

Notes

ab247883 is the carrier-free version of ab109502.

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	Proteasome 20S alpha 2 also known as HC3 forms part of the proteasome complex responsible for protein degradation. This protein has a molecular mass of approximately 25 kDa and functions as a structural component of the 20S core particle within the proteasome. The 20S alpha 2 subunit is highly conserved and expressed in various tissues contributing to cellular protein homeostasis through the removal of damaged or misfolded proteins.
Biological function summary	The 20S alpha 2 subunit integrates into the larger 26S proteasome complex working alongside other subunits to regulate protein turnover. This complex controls the degradation of ubiquitin-tagged proteins impacting diverse cellular processes like cell cycle progression and stress response. Through its role in the proteasome HC3 maintains protein quality control within the cell and supports proper cellular function.
Pathways	Proteasome 20S alpha 2 interacts within the ubiquitin-proteasome pathway and plays a central role in protein degradation and turnover. It associates with related proteins such as other members of the proteolytic complex and interacts with ubiquitin ligases to efficiently process and degrade proteins tagged for destruction. By facilitating these pathways it is critical for cellular regulation and response to changes.
Associated diseases and disorders	Proteasome 20S alpha 2 has associations with several pathological conditions including neurodegenerative diseases and cancer. The malfunction or altered expression of this subunit can impact protein degradation contributing to the accumulation of malfunctioning proteins linked to these diseases. It interacts with

proteins like p53 in cancer where proteasomal regulation can affect tumorigenesis and with neurofibrillary tangles in Alzheimer's disease affecting neuronal health.

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

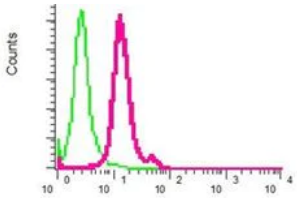
We do not recommend this combination. It is not covered by our product promise.

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.

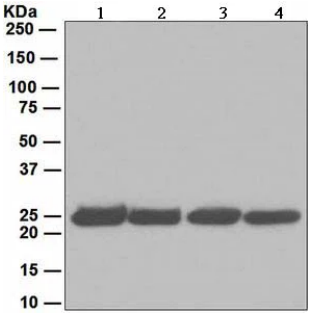
2 product images



Flow Cytometry (Intracellular) - Anti-Proteasome 20S alpha 2/HC3 antibody [EPR5454] - BSA and Azide free (ab247883)

Proteasome 20S alpha 2/HC3 Flow Cytometry (Intracellular) staining using rabbit Anti-Proteasome 20S alpha 2/HC3 antibody

This data was developed using ab109502, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized HeLa cells using ab109502 at 1/10 dilution (red) and a control rabbit IgG (green).



Western blot - Anti-Proteasome 20S alpha 2/HC3 antibody [EPR5454] - BSA and Azide free (ab247883)

Proteasome 20S alpha 2/HC3 Western blot staining using rabbit Anti-Proteasome 20S alpha 2/HC3 antibody

This data was developed using ab109502, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Proteasome 20S alpha 2/HC3 antibody [EPR5454] - BSA and Azide free (ab247883) at 1/10000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
293T cell lysate at 10 µg

Lane 3:
HeLa cell lysate at 10 µg

Lane 4:
JAR cell lysates at 10 µg

Secondary

All lanes:
Standard HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 26 kDa

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