abcam

ab250993

Anti-USP19 antibody [EPR14816] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR14816

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information USP19

Function	Deubiquitinating enzyme that regulates the degradation of various proteins by removing ubiquitin moieties, thereby preventing their proteasomal degradation. Stabilizes RNF123, which promotes CDKN1B degradation and contributes to cell proliferation (By similarity). Decreases the levels of ubiquitinated proteins during skeletal muscle formation and acts to repress myogenesis. Modulates transcription of major myofibrillar proteins. Also involved in turnover of endoplasmic-reticulum-associated degradation (ERAD) substrates (PubMed:19465887, PubMed:24356957). Mechanistically, deubiquitinates and thereby stabilizes several E3 ligases involved in the ERAD pathway including SYVN1 or MARCHF6 (PubMed:24356957). Regulates the stability of other E3 ligases including BIRC2/c-IAP1 and BIRC3/c-IAP2 by preventing their ubiquitination (PubMed:21849505). Required for cells to mount an appropriate response to hypoxia by rescuing HIF1A from degradation in a non-catalytic manner and by mediating the deubiquitination of FUNDC1 (PubMed:22128162, PubMed:33978709). Attenuates mitochondrial damage and ferroptosis by targeting and stabilizing NADPH oxidase 4/NOX4 (PubMed:38943386). Negatively regulates TNF- and IL-1beta-triggered NF-kappa-B activation by hydrolyzing 'Lys-27'- and 'Lys-63'-linked polyubiquitin chains from MAP3K7 (PubMed:31127032). Modulates also the protein level and aggregation of polyQ-expanded huntingtin/HTT through HSP90AA1 (PubMed:33094816).

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

ab250993 is the carrier-free version of ab189518.

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	USP19 also known as Ubiquitin Specific Peptidase 19 is an enzyme with deubiquitinating activity. It belongs to the family of cysteine proteases and has a molecular mass of approximately 150 kDa. This protein's primary function involves the removal of ubiquitin from specific protein substrates regulating their degradation and maintaining protein homeostasis. USP19 is expressed in multiple tissues including skeletal muscle heart and brain indicating its widespread physiological roles.
Biological function summary	The regulation of protein turnover and cellular stress responses involves USP19. As a standalone enzyme it participates independently rather than as part of a larger protein complex. By deubiquitinating target proteins USP19 influences their stability and function affecting a variety of cellular processes such as protein synthesis cell cycle progression and stress response through modulation of ubiquitin chains on substrates.
Pathways	The modulation of protein degradative pathways involves USP19 specifically impacting the ubiquitin-proteasome system (UPS) and chaperone-mediated autophagy (CMA). It interacts with key proteins in these pathways such as ubiquitin-conjugating enzymes and proteasomal subunits to maintain cellular homeostasis. By regulating pathways like UPS USP19 plays a role in controlling protein quality and preventing aggregation which is critical for cell function.

Associated diseases and disorders	The dysregulation of protein degradation mechanisms implicates USP19 in conditions such as muscle atrophy and neurodegenerative diseases. Abnormal activity of USP19 associates with disorders like Parkinson's disease where it may interact with proteins such as Parkin affecting the ubiquitination balance. Studies on USP19 continue to explore its potential as a therapeutic target for treating these conditions.

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

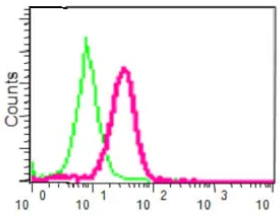
We do not recommend this combination. It is not covered by our product promise.

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.

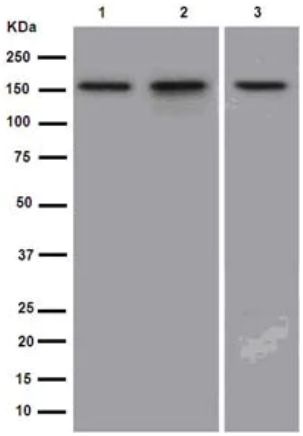
4 product images



Flow Cytometry (Intracellular) - Anti-USP19 antibody [EPR14816] - BSA and Azide free (ab250993)

USP19 Flow Cytometry (Intracellular) staining using rabbit Anti-USP19 antibody

This data was developed using ab189518, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of Jurkat cells (left histogram) labeling USP19 with ab189518 at 1/250 dilution compared to negative control cells (right histogram). Secondary antibody FITC-conjugated goat-anti-rabbit IgG used at 1/150 diution.



Western blot - Anti-USP19 antibody [EPR14816] - BSA and Azide free (ab250993)

USP19 Western blot staining using rabbit Anti-USP19 antibody

This data was developed using ab189518, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-USP19 antibody [EPR14816] (ab189518) at 1/10000 dilution

Lane 1:
Jurkat lysate at 10 µg

Lane 2:
293T lysate at 10 µg

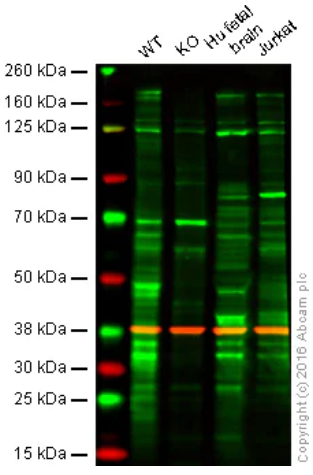
Lane 3:
HeLa lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 146 kDa



Western blot - Anti-USP19 antibody [EPR14816] - BSA and Azide free (ab250993)

USP19 Western blot staining using rabbit Anti-USP19 antibody

This data was developed using ab189518, the same antibody clone in a different buffer formulation.
Lane 1: Wild-type HAP1 cell lysate (40 µg)

Lane 2: USP19 knockout HAP1 cell lysate (40 µg)

Lane 3: Jurkat cell lysate (40 µg)

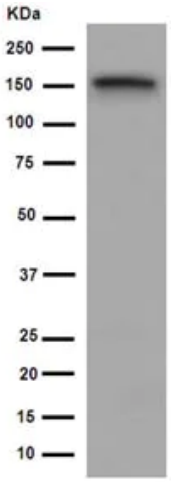
Lane 4: HeLa cell lysate (40 µg)

Lanes 1 - 4: Merged signal (red and green). Green - ab189518 observed at 160 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab189518 was shown to recognize USP19 when USP19 knockout samples were used, along with additional cross-reactive bands. Wild-type and USP19 knockout samples were subjected to SDS-PAGE. ab189518 and ab8245 (loading control to GAPDH) were diluted at 1/1000 and 1/10000 dilution respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ab216776 secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-USP19 antibody [EPR14816] (ab189518)

Predicted band size: 146 kDa



Western blot - Anti-USP19 antibody [EPR14816] - BSA and Azide free (ab250993)

This data was developed using ab189518, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-USP19 antibody [EPR14816] (ab189518) at 1/5000 dilution

All lanes:
Human fetal brain lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 146 kDa

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