abcam

ab314177

Anti-USP22 antibody [18H6]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human USP22. Database link Q9UPT9
Clone number	18H6
Purification technique	Affinity purification
Concentration	0.275 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500 - 1/5000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Target data

See full target information USP22

Function

Deubiquitinase that plays a role in several cellular processes including transcriptional regulation, cell cycle progression or innate immunity. As part of the transcription regulatory histone acetylation (HAT) complex SAGA, catalyzes the deubiquitination of both histones H2A and H2B, thereby acting as a transcriptional coactivator (PubMed:18206972, PubMed:18206973, PubMed:18469533). Recruited to specific gene promoters by activators such as MYC, where it is required for transcription. Facilitates cell-cycle progression by stabilizing CCNB1 and antagonizing its proteasome-mediated degradation in a cell cycle-specific manner (PubMed:27030811). Modulates cell cycle progression and apoptosis also by antagonizing TP53 transcriptional activation through deacetylase SIRT1 stabilization (PubMed:22542455). Plays multiple roles in immunity and inflammation. Participates in antiviral response by deubiquitinating the importin KPNA2, leading to IRF3 nuclear translocation and subsequent type I interferon production (PubMed:32130408). Acts as a central regulator of type III IFN signaling by negatively regulating STING1 activation and ubiquitination (PubMed:35933402). Inhibits NLRP3 inflammasome activation by promoting NLRP3 degradation through ATG5-dependent autophagy (By similarity). Deubiquitinates CD274 to induce its stabilization and thereby participates in maintenance of immune tolerance to self (PubMed:31399419). Controls necroptotic cell death by regulating RIPK3 phosphorylation and ubiquitination (PubMed:33369872). During bacterial infection, promotes pro-inflammatory response by targeting TRAF6 and removing its 'Lys-48'-linked polyubiquitination (By similarity).

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

Notes

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.

Supplementary info

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

Activity summary	USP22 also known as ubiquitin-specific protease 22 is an enzyme belonging to the class of deubiquitinating enzymes (DUBs). It is characterized by the ability to remove ubiquitin moieties from target proteins which can alter their stability and function. Carrying an approximate mass of 59 kDa USP22 localizes mainly in the nucleus. Expression of USP22 is widespread across a range of tissues with higher levels identified in tissues exhibiting high proliferative capacity.
Biological function summary	Removal of ubiquitin by USP22 regulates gene expression by modulating histone modifications. USP22 acts as a part of the Spt-Ada-Gcn5 acetyltransferase (SAGA) complex which plays a significant role in transcriptional regulation. Through its deubiquitinating activity USP22 alters the ubiquitination status of histone proteins thereby impacting chromatin dynamics and gene transcription.
Pathways	USP22 takes part in critical pathways like the ubiquitin-proteasome system and chromosome structure modulation. Within these processes USP22 closely interacts with proteins such as SAGA complex members and histone H2B. Its activity within this system highlights roles in transcriptional control and cellular growth

	important for maintaining cellular homeostasis and regulating cell cycle progression.
Associated diseases and disorders	USP22 shows strong implications in several types of cancer including colorectal and prostate cancer. Abnormal expression levels can alter the transcriptional landscape contributing to tumor progression and metastasis. Further USP22 links to other proteins like MYC in the cancer context highlighting its importance in oncogenic pathways. This connection suggests that targeting USP22 might offer therapeutic potential in treating cancers where its expression is dysregulated.

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

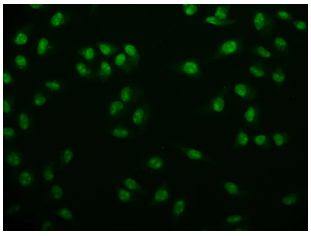
We do not recommend this combination. It is not covered by our product promise.

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.

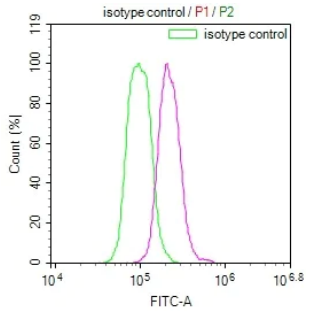
Full details and terms and conditions can be found here:
Terms & Conditions.

2 product images



Immunocytochemistry/ Immunofluorescence - Anti-USP22 antibody [18H6] (ab314177)

Immunofluorescence staining of HeLa (Human epithelial cell line from cervix adenocarcinoma) cells with ab314177 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor® 507-conjugated Goat Anti-Rabbit IgG(H+L).



Flow Cytometry - Anti-USP22 antibody [18H6] (ab314177)

USP22 Flow Cytometry staining of HeLa cells using rabbit Anti-USP22 antibody

Overlay Peak curve showing HeLa (Human epithelial cell line from cervix adenocarcinoma) cells stained with ab314177 (pink line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1x10E6cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG (H+L) at 1:200 dilution for 35min at 4°C. Control antibody (green line) was rabbit IgG (1ug/1x10E6cells) used under the same conditions. Acquisition of >10,000 events was performed.

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