abcam

ab236452

Anti-USP36 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.05% Sodium azide
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Fragment Protein within Human USP36. The exact immunogen used to generate this antibody is proprietary information. Database link Q9P275
Purity	Whole antiserum

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1/2000
Notes	-

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/2000
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information USP36

Function Deubiquitinase essential for the regulation of nucleolar structure and function (PubMed:19208757, PubMed:22902402, PubMed:29273634). Required for cell and organism viability (PubMed:19208757, PubMed:22902402, PubMed:29273634). Plays an important role in ribosomal RNA processing and protein synthesis, which is mediated, at least in part, through deubiquitination of DHX33, NPM1 and FBL,

regulating their protein stability (PubMed:19208757, PubMed:22902402, PubMed:29273634, PubMed:36912080). Functions as a transcriptional repressor by deubiquiting histone H2B at the promoters of genes critical for cellular differentiation, such as CDKN1A, thereby preventing histone H3 'Lys-4' trimethylation (H3K4) (PubMed:29274341). Specifically deubiquitinates MYC in the nucleolus, leading to prevent MYC degradation by the proteasome: acts by specifically interacting with isoform 3 of FBXW7 (FBW7gamma) in the nucleolus and counteracting ubiquitination of MYC by the SCF(FBW7) complex (PubMed:25775507). In contrast, it does not interact with isoform 1 of FBXW7 (FBW7alpha) in the nucleoplasm (PubMed:25775507). Interacts to and regulates the actions of E3 ubiquitin-protein ligase NEDD4L over substrates such as NTRK1, KCNQ2 and KCNQ3, affecting their expression an functions (PubMed:27445338). Deubiquitinates SOD2, regulates SOD2 protein stability (PubMed:21268071). Deubiquitinase activity is required to control selective autophagy activation by ubiquitinated proteins (PubMed:22622177). Promotes CEP63 stabilization through 'Lys-48'-linked deubiquitination leading to increased stability (PubMed:35989368). Acts as a SUMO ligase to promote EXOSC10 sumoylation critical for the nucleolar RNA exosome function in rRNA processing (PubMed:36912080). Binds to pre-rRNAs (PubMed:36912080).

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

Supplementary info

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

Activity summary	USP36 or Ubiquitin Specific Peptidase 36 functions as a deubiquitinating enzyme. It removes ubiquitin moieties from specific protein substrates influencing their stability and degradation. The enzyme weighs approximately 123 kDa. USP36 expresses in various tissues throughout the body with significant levels in the nucleolus. This protein involves in cellular regulation due to its role in controlling ubiquitination which is an important process in protein turnover.

Biological function summary	USP36 plays a role in regulating ribosomal RNA gene transcription and processing. It forms part of complexes that include nucleolar proteins facilitating nucleolar homeostasis. This regulation impacts cell growth and division linking USP36 to fundamental cellular activities such as ribosome biogenesis. By influencing these processes USP36 ensures that cells maintain proper protein synthesis rates necessary for growth and division.
Pathways	Changes in USP36 influence the ubiquitin-proteasome pathway and ribosome biogenesis pathway. USP36 interacts with proteins like FBL (Fibrillarin) and NPM1 (Nucleophosmin) key players in these pathways coordinating ribosomal RNA synthesis and nucleolar architecture. The protein supports the removal of ubiquitin from nucleolar substrates affecting their ability to respond to signaling events related to cell division and stress responses.
Associated diseases and disorders	Disruption in USP36 activity has links to cancer particularly where nucleolar function is perturbed. It associates with tumorigenesis through interactions with proteins like MYC a well-known oncogene. Additionally aberrations in USP36 function contribute to neurodegenerative disorders through its involvement in protein aggregation drawing connections with ubiquitin-related proteins within cellular maintenance processes.

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

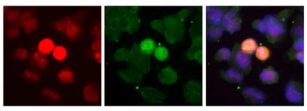
We do not recommend this combination. It is not covered by our product promise.

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.

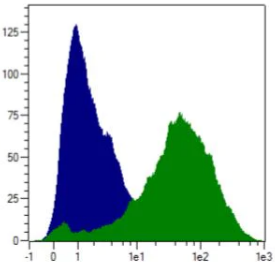
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-USP36 antibody (ab236452)

USP36 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-USP36 antibody

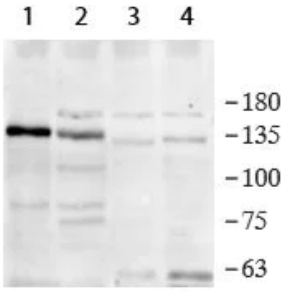
2% paraformaldehyde-fixed U-2 OS (human bone osteosarcoma epithelial cell line) cells transfected with Flag-USP36 stained for USP36 (red) using ab236452 at 1/2000 dilution in ICC/IF. Flag (green). Right panel shows the merged images with DAPI.



Flow Cytometry - Anti-USP36 antibody (ab236452)

USP36 Flow Cytometry staining using rabbit Anti-USP36 antibody

Flow cytometric analysis of U-2 OS (human bone osteosarcoma epithelial cell line) cell line labeling USP36 with ab236452 at 1/200 dilution (green) compared with a negative control with no primary antibody (blue).



Western blot - Anti-USP36 antibody (ab236452)

All lanes:
Western blot - Anti-USP36 antibody (ab236452) at 1/2000 dilution

Lane 1:
U-2 OS (human bone osteosarcoma epithelial cell line) cell lysate treated with control siRNA

Lane 2:
U-2 OS (human bone osteosarcoma epithelial cell line) cell lysate treated with USP36 siRNA

Lane 3:
Mouse MEF cell lysate

Lane 4:
Rat INS-1 cell lysate

Predicted band size: 123 kDa

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