abcam

ab314024

Anti-USP24 antibody [11E3]

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 USP24. Database link Q9UPU5
Clone number	11E3
Purification technique	Affinity purification
Concentration	0.4 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

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 USP24

Function	Ubiquitin-specific protease that regulates cell survival in various contexts through modulating the protein stability of some of its substrates including DDB2, MCL1 or TP53. Plays a positive role on ferritinophagy where ferritin is degraded in lysosomes and releases free iron.

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	USP24 also known as Ubiquitin Specific Peptidase 24 is a deubiquitinating enzyme with a molecular mass of approximately 291 kDa. This protein plays a role in the removal of ubiquitin from specific protein substrates which regulates their degradation in the proteasome. It involves the cleavage of the ubiquitin moieties and alters the stability or activity of proteins. USP24 shows expression in several tissues with notable presence in the brain and testis. The specificity of USP24 allows it to finely adjust cellular protein turnover affecting both normal cellular function and stress responses.
Biological function summary	The regulation of protein ubiquitination/deubiquitination is fundamental in maintaining cellular homeostasis. USP24 acts within this regulatory landscape to control pathways involved in cell cycle progression and DNA damage response. It can interact with other proteins and may form complexes under certain cellular conditions affecting its activity and specificity. These complexes can further indicate how USP24’s enzymatic action coordinates larger cellular processes modulating critical phases of a cell's life cycle and response to external damage.
Pathways	Proteins like USP24 play decisive roles in the ubiquitin-proteasome pathway. This pathway is essential for controlling protein degradation ensuring that excess damaged or misfolded proteins are effectively processed. USP24 specifically interacts with and stabilizes proteins like p53 which is fundamental in DNA repair pathways. It links the ubiquitin-proteasome system to critical cellular defense mechanisms against DNA damage helping maintain genomic integrity. There is also involvement with pathways related to neuronal survival suggesting a broader functional landscape for USP24 beyond cellular maintenance.
Associated diseases and disorders	Disruptions in USP24 activity have been implicated in various neurodegenerative diseases including Alzheimer's disease. Altered deubiquitination activity may contribute to the accumulation of pathogenic proteins exacerbating neuronal damage. Furthermore USP24 has connections with cancers particularly through its stabilization of tumor suppressor proteins like p53. Aberrant regulation of USP24 could result in ineffective tumor suppression leading to unchecked cellular proliferation. The relationship of USP24 with both Alzheimer's disease and cancer shows its importance in maintaining cellular and organismal 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.

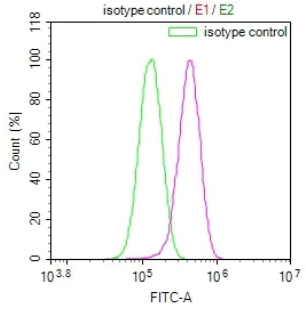
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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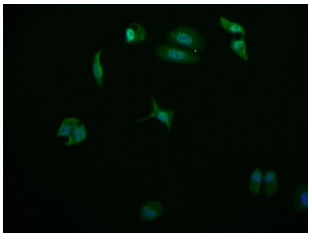
2 product images



Flow Cytometry (Intracellular) - Anti-USP24 antibody [11E3] (ab314024)

USP24 Flow Cytometry (Intracellular) staining of HepG2 cells using rabbit Anti-USP24 antibody

Overlay Peak curve showing HepG2 (Human liver hepatocellular carcinoma cell line) cells stained with ab314024 (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/1x10E6 cells) 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/1x10E6 cells) used under the same conditions. Acquisition of >10,000 events was performed.



Immunocytochemistry/ Immunofluorescence - Anti-USP24 antibody [11E3] (ab314024)

Immunofluorescence staining of HepG2 (Human liver hepatocellular carcinoma cell line) cells with ab314024 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® 569-conjugated Goat Anti-Rabbit IgG(H+L).

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