abcam

ab269998

Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24112-81
Purification technique	Affinity purification Protein A
Specificity	This antibody cross-reacts with zebrafish Upf3b.
Concentration	0.535 - 0.585 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100

Notes	-

Expected

Species	Zebrafish
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Zebrafish
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Zebrafish
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human, Zebrafish
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Zebrafish
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information upf3a

Function	Involved in nonsense-mediated decay (NMD) of mRNAs containing premature stop codons by associating with the nuclear exon junction complex (EJC) and serving as link between the EJC core and NMD machinery. Recruits UPF2 at the cytoplasmic side of the nuclear envelope and the subsequent formation of an UPF1-UPF2-UPF3 surveillance complex (including UPF1 bound to release factors at the stalled ribosome) is believed to activate NMD. Binds spliced mRNA upstream of exon-exon junctions (By similarity).

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

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

Activity summary	UPF3B also known as RENT3B is a component of the nonsense-mediated mRNA decay (NMD) pathway with a mass of approximately 48 kDa. UPF3A is a closely related homolog sharing several functional characteristics. UPF3B is expressed in various tissues including the brain. This protein primarily functions in the nucleus and cytoplasm where it binds to mRNA and interacts with other NMD factors to facilitate the degradation of faulty transcripts. By tagging mRNA with premature stop codons for degradation UPF3B helps maintain the integrity of gene expression.
Biological function summary	UPF3B ensures accuracy in post-transcriptional regulation. Both UPF3B and UPF3A are part of the exon-junction complex (EJC) playing a role in recognizing erroneous transcripts. They work in conjunction with other core NMD proteins such as UPF1 and UPF2 to target mRNAs with errors. This mechanism is essential in protecting cells from potential damage caused by erroneous or incomplete protein products impacting gene expression at the mRNA level.
Pathways	UPF3B and UPF3A play important roles in the nonsense-mediated mRNA decay pathway which is a critical mRNA surveillance mechanism. Their interaction with UPF1 an important factor in NMD illustrates their central position in this pathway. UPF3B's role in regulating mRNA stability also links it to the broader RNA processing and degradation pathways including those involved in general mRNA turnover and quality control ensuring cellular homeostasis.
Associated diseases and disorders	UPF3B associations relate to X-linked intellectual disabilities and neurodevelopmental disorders. Mutations in the UPF3B gene disrupt normal NMD function leading to cognitive impairments. This disruption often involves UPF1 and other NMD components. Such genetic defects highlight the importance of robust mRNA surveillance systems in neurological development and health. Furthermore the impaired function of UPF3B in this context reveals insights into the molecular basis of certain intellectual disabilities.

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.

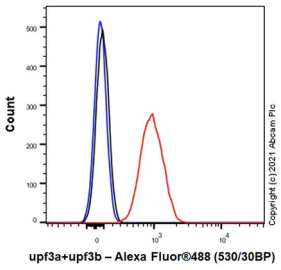
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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

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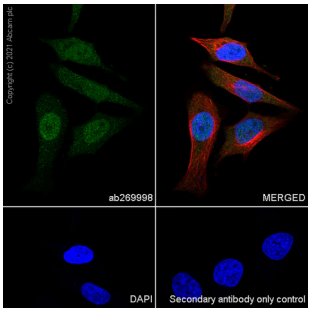
5 product images



Flow Cytometry (Intracellular) - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998)

UPF3B/RENT3B + UPF3A Flow Cytometry (Intracellular) staining using rabbit Anti-UPF3B/RENT3B + UPF3A antibody

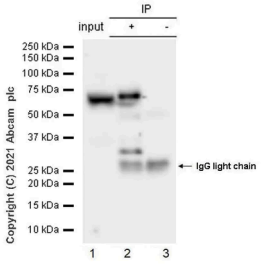
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling UPF3A with ab269998 at 1/50 dilution (0.1 µg) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998)

UPF3B/RENT3B + UPF3A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-UPF3B/RENT3B + UPF3A antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa cells labelling UPF3A with ab269998 at 1/100 (5.35 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing nuclear and cytoplasmic staining in HeLa cell line. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



Immunoprecipitation - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998)

UPF3A was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate 10 µg with ab269998 at 1/30 dilution (2 µg in 0.35 mg lysates). Western blot was performed on the immunoprecipitate using ab269998 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: (Input) HeLa whole cell lysate 10 µg

Lane 2: HeLa whole cell lysate

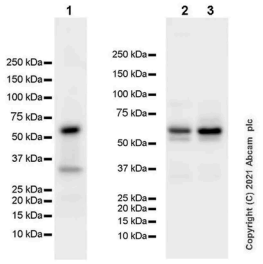
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab269998 in HeLa whole cell lysate

Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998)

Observed band size: 60 kDa

Exposure time: 15s



Western blot - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998)

UPF3B/RENT3B + UPF3A Western blot staining using rabbit Anti-UPF3B/RENT3B + UPF3A antibody

5% NFDM/TBST was used as a blocking and diluting buffer.
This antibody (ab269998) reacts with an unidentifiable protein around 35 kDa.

The zebrafish embryo tissue lysate is kindly provided by Prof. Jun Chen, Zhejiang University.

All lanes:
Western blot - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998) at 1/1000 dilution

Lane 1:
Zebrafish embryo tissue lysate at 10 µg

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 20 µg

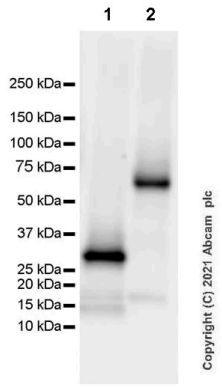
Lane 3:
293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 60 kDa

Exposure time: 15s



Western blot - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998)

UPF3B/RENT3B + UPF3A Western blot staining using rabbit Anti-UPF3B/RENT3B + UPF3A antibody

5% NFDM/TBST was used as a blocking and dilution buffer.
Exposure time: 3.25 seconds.

This antibody has cross-reaction with zebrafish Upf3b.
Both samples are recombinant proteins expressed from an E.coli expression system.

All lanes:
Western blot - Anti-UPF3B/RENT3B + UPF3A antibody [EPR24112-81] (ab269998) at 1/1000 dilution

Lane 1:
Truncated Zebrafish Upf3a recombinant protein (aa32-261, predicted MW 28 kDa), 10 ng

Lane 2:
Full-length Zebrafish Upf3b recombinant protein (aa1-467) 10 ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 60 kDa

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