abcam

ab318132

Anti-XRN2 antibody [EPR28598-13]

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	EPR28598-13
Purification technique	Affinity purification Protein A
Concentration	0.501 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Species	Mouse
Dilution info	1/100
Notes	-

Expected

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

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information 5'-3' exoribonuclease 2

Function	Possesses 5'->3' exoribonuclease activity (By similarity). May promote the termination of transcription by RNA polymerase II. During transcription termination, cleavage at the polyadenylation site liberates a 5' fragment which is subsequently processed to form the mature mRNA and a 3' fragment which remains attached to the elongating polymerase. The processive degradation of this 3' fragment by this protein may promote termination of transcription. Binds to

RNA polymerase II (RNAp II) transcription termination R-loops formed by G-rich pause sites (PubMed:21700224).

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	XRN2 also known as 5'-3' exoribonuclease 2 is an enzyme involved in RNA metabolism. It has a molecular mass of approximately 105 kDa. XRN2 scavenges for the degradation of uncapped nascent RNA by cleaving RNA in the 5' to 3' direction after exonucleolytic cleavage. Predominantly expressed in the nucleus XRN2 plays an important role in RNA turnover and processing contributing to the precise control of gene expression within eukaryotic cells.

Biological function summary	5'-3' exoribonuclease 2 regulates the termination of transcription facilitating the completion of the RNA synthesis process. XRN2 functions in coordination with other components within transcription termination complexes such as the exosome. These complexes ensure the removal of excess or faulty RNA which is critical for maintaining cellular homeostasis. XRN2's activity aids in silencing transcriptional noise and preventing the accumulation of defective RNA species.
Pathways	5'-3' RNA decay and termination are where XRN2 finds its primary function. It is a part of the exosome-mediated RNA decay pathway and contributes to effective gene expression pathways. In these pathways XRN2 functions alongside proteins such as Rrp6 and other cofactors ensuring the fidelity of RNA processing is maintained. It interacts with proteins involved in RNA polymerase II-mediated transcriptional processes highlighting its integral role in gene expression regulation.
Associated diseases and disorders	Improper function or expression of XRN2 is linked to cancer and neurodegenerative diseases. In cancer alterations in RNA processing pathways involving XRN2 can lead to unchecked cellular proliferation. Additionally proteins like SEPT7 are sometimes altered in these pathways contributing to oncogenic potentials. In neurodegenerative disorders such as amyotrophic lateral sclerosis (ALS) disrupted XRN2 function can result in abnormal RNA processing and neuronal damage. Here interactions with proteins like TDP-43 can exacerbate disease pathology linking XRN2 to complex disease mechanisms.

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

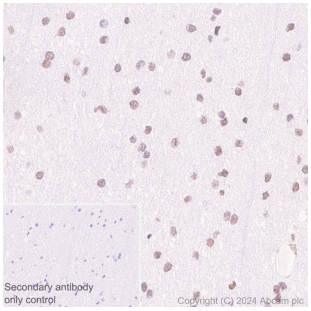
We do not recommend this combination. It is not covered by our product promise.

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.

12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-XRN2 antibody [EPR28598-13] (ab318132)

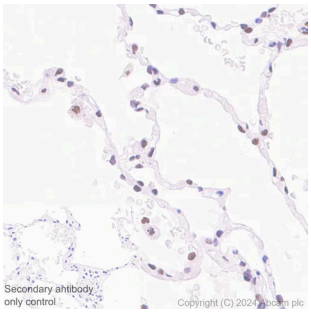
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling XRN2 with ab318132 at 1/1000 (0.501 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in human cerebrum.
The section was incubated with ab318132 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-XRN2 antibody [EPR28598-13] (ab318132)

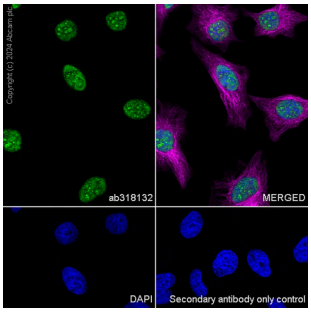
Immunohistochemical analysis of paraffin-embedded Human lung tissue labeling XRN2 with ab318132 at 1/1000 (0.501 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in human lung.
The section was incubated with ab318132 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



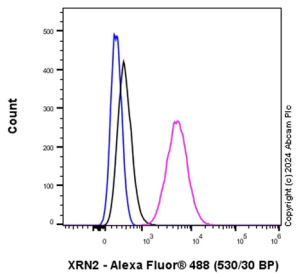
Immunocytochemistry/ Immunofluorescence - Anti-XRN2 antibody [EPR28598-13] (ab318132)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling XRN2 with ab318132 at 1/100 (5.01 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing nuclear staining in HeLa cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

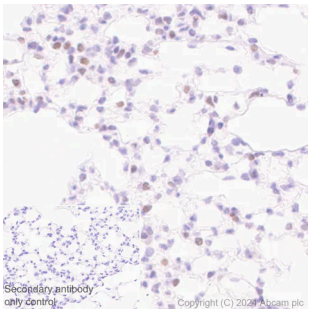
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-XRN2 antibody [EPR28598-13] (ab318132)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling XRN2 with ab318132 at 1/500 dilution (0.1 ug)/Magenta (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).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-XRN2 antibody [EPR28598-13] (ab318132)

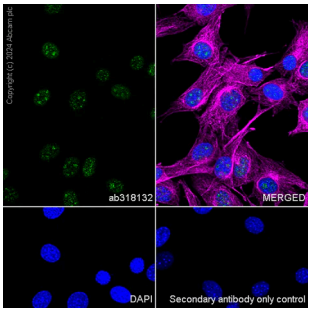
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling XRN2 with ab318132 at 1/2000 (0.251 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in mouse lung.
The section was incubated with ab318132 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



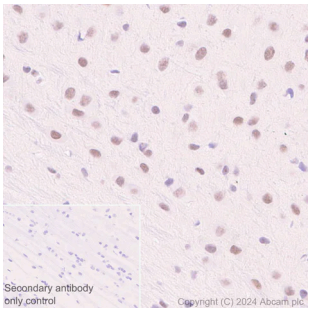
Immunocytochemistry/ Immunofluorescence - Anti-XRN2 antibody [EPR28598-13] (ab318132)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling XRN2 with ab318132 at 1/100 (5.01 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing nuclear staining in NIH/3T3 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Magenta).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-XRN2 antibody [EPR28598-13] (ab318132)

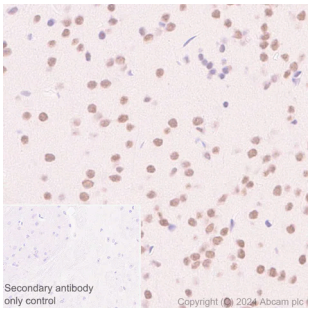
Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling XRN2 with ab318132 at 1/2000 (0.251 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in rat cerebrum.
The section was incubated with ab318132 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-XRN2 antibody [EPR28598-13] (ab318132)

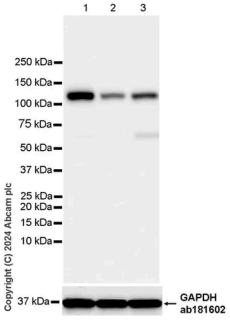
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling XRN2 with ab318132 at 1/2000 (0.251 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining in mouse cerebrum.
The section was incubated with ab318132 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132)

XRN2 Western blot staining using rabbit Anti-XRN2 antibody

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
HeLa transfected with siRNA specifically targeting XRN2 whole cell lysate at 20 µg

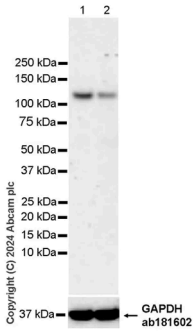
Lane 3:
LN-229 (human brain glioblastoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 108 kDa, 36 kDa

Exposure time: 8s



Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132)

XRN2 Western blot staining using rabbit Anti-XRN2 antibody

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132) at 1/1000 dilution

Lane 1:
Human cerebellum tissue lysate at 20 µg

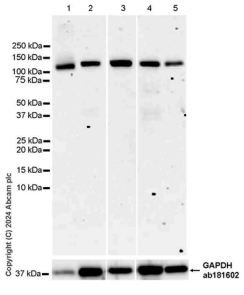
Lane 2:
Human liver tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/5000 dilution

Observed band size: 108 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132)

XRN2 Western blot staining using rabbit Anti-XRN2 antibody

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132) at 1/1000 dilution

Lane 1:
Mouse lung tissue lysate at 20 µg

Lane 2:
Mouse skeletal muscle tissue lysate at 20 µg

Lane 3:
Mouse brain tissue lysate at 20 µg

Lane 4:
Rat skeletal muscle tissue lysate at 20 µg

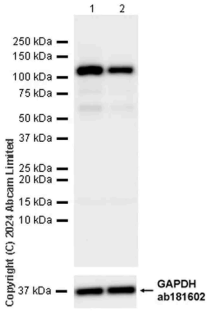
Lane 5:
Rat brain tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 108 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132)

Blocking and diluting buffer and concentration: 5% NFDM/TBST

The identity of the band lower than 108 kDa are unknown.

All lanes:
Western blot - Anti-XRN2 antibody [EPR28598-13] (ab318132) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
NIH/3T3 transfected with siRNA specifically targeting XRN2 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: 108 kDa, 36 kDa

Exposure time: 15s

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