abcam

ab180952

Anti-hnRNP U/p120 antibody [EPR12278(2)(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR12278(2)(B)
Purity	Tissue culture supernatant

Reactivity data

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Species	Mouse
Dilution info	1/1000

Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information HNRNPU

Function	DNA- and RNA-binding protein involved in several cellular processes such as nuclear chromatin organization, telomere-length regulation, transcription, mRNA alternative splicing and stability, Xist-mediated transcriptional silencing and

mitotic cell progression (PubMed:10490622, PubMed:18082603, PubMed:19029303, PubMed:22325991, PubMed:25986610, PubMed:28622508). Plays a role in the regulation of interphase large-scale gene-rich chromatin organization through chromatin-associated RNAs (caRNAs) in a transcription-dependent manner, and thereby maintains genomic stability (PubMed:1324173, PubMed:28622508, PubMed:8174554). Required for the localization of the long non-coding Xist RNA on the inactive chromosome X (Xi) and the subsequent initiation and maintenance of X-linked transcriptional gene silencing during X-inactivation (By similarity). Plays a role as a RNA polymerase II (Pol II) holoenzyme transcription regulator (PubMed:10490622, PubMed:15711563, PubMed:19617346, PubMed:23811339, PubMed:8174554, PubMed:9353307). Promotes transcription initiation by direct association with the core-TFIIH basal transcription factor complex for the assembly of a functional pre-initiation complex with Pol II in a actin-dependent manner (PubMed:10490622, PubMed:15711563). Blocks Pol II transcription elongation activity by inhibiting the C-terminal domain (CTD) phosphorylation of Pol II and dissociates from Pol II pre-initiation complex prior to productive transcription elongation (PubMed:10490622). Positively regulates CBX5-induced transcriptional gene silencing and retention of CBX5 in the nucleus (PubMed:19617346). Negatively regulates glucocorticoid-mediated transcriptional activation (PubMed:9353307). Key regulator of transcription initiation and elongation in embryonic stem cells upon leukemia inhibitory factor (LIF) signaling (By similarity). Involved in the long non-coding RNA H19-mediated Pol II transcriptional repression (PubMed:23811339). Participates in the circadian regulation of the core clock component BMAL1 transcription (By similarity). Plays a role in the regulation of telomere length (PubMed:18082603). Plays a role as a global pre-mRNA alternative splicing modulator by regulating U2 small nuclear ribonucleoprotein (snRNP) biogenesis (PubMed:22325991). Plays a role in mRNA stability (PubMed:17174306, PubMed:17289661, PubMed:19029303). Component of the CRD-mediated complex that promotes MYC mRNA stabilization (PubMed:19029303). Enhances the expression of specific genes, such as tumor necrosis factor TNFA, by regulating mRNA stability, possibly through binding to the 3'-untranslated region (UTR) (PubMed:17174306). Plays a role in mitotic cell cycle regulation (PubMed:21242313, PubMed:25986610). Involved in the formation of stable mitotic spindle microtubules (MTs) attachment to kinetochore, spindle organization and chromosome congression (PubMed:21242313). Phosphorylation at Ser-59 by PLK1 is required for chromosome alignement and segregation and progression through mitosis (PubMed:25986610). Also contributes to the targeting of AURKA to mitotic spindle MTs (PubMed:21242313). Binds to double- and single-stranded DNA and RNA, poly(A), poly(C) and poly(G) oligoribonucleotides (PubMed:1628625, PubMed:8068679, PubMed:8174554, PubMed:9204873, PubMed:9405365). Binds to chromatin-associated RNAs (caRNAs) (PubMed:28622508). Associates with chromatin to scaffold/matrix attachment region (S/MAR) elements in a chromatin-associated RNAs (caRNAs)-dependent manner (PubMed:10671544, PubMed:11003645, PubMed:11909954, PubMed:1324173, PubMed:28622508, PubMed:7509195, PubMed:9204873, PubMed:9405365). Binds to the Xist RNA (PubMed:26244333). Binds the long non-coding H19 RNA (PubMed:23811339). Binds to SMN1/2 pre-mRNAs at G/U-rich regions (PubMed:22325991). Binds to small nuclear RNAs (snRNAs) (PubMed:22325991). Binds to the 3'-UTR of TNFA mRNA (PubMed:17174306). Binds (via RNA-binding RGG-box region) to the long non-coding Xist RNA; this binding is direct and bridges the Xist RNA and the inactive chromosome X (Xi) (By similarity). Also negatively regulates embryonic stem cell differentiation upon LIF signaling (By similarity). Required for embryonic development (By similarity). Binds to brown fat long non-coding RNA 1 (Blnc1); facilitates the recruitment of Blnc1 by ZBTB7B

required to drive brown and beige fat development and thermogenesis (By similarity). (Microbial infection) Negatively regulates immunodeficiency virus type 1 (HIV-1) replication by preventing the accumulation of viral mRNA transcripts in the cytoplasm.

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	Heterogeneous nuclear ribonucleoprotein U (hnRNP U) also known as p120 is a multifunctional protein involved in various cellular processes. This protein has an approximate molecular mass of 120 kDa. It is expressed widely in different tissues predominantly within the nuclear compartment of cells. HnRNP U functions mainly in relation to RNA binding and regulation including alternative splicing RNA

	stability and RNA transport. Its ability to interact with both RNA and DNA attributes to a role in chromatin structure regulation and transcriptional control.
Biological function summary	HnRNP U plays a significant role in organizing chromatin architecture and facilitating transcription regulation. It often associates with other hnRNPs to form ribonucleoprotein complexes which are central in RNA metabolism. Importantly hnRNP U's capacity to interact with chromatin allows it to participate in chromatin remodeling which is necessary for processes such as embryonic development and cellular differentiation. It modifies the transcriptional landscape by influencing the accessibility of transcription factors to their DNA targets.
Pathways	HnRNP U integrates into pathways controlling gene expression and RNA processing. It is notably involved in pathways such as signal transduction and DNA damage response. This protein associates with the transcription machinery influencing the expression of genes responsive to cellular stress and proliferation signals. It interacts with proteins like p53 in the DNA damage response pathway which suggests a role in maintaining genomic stability by coordinating chromatin remodeling and transcription in response to stress.
Associated diseases and disorders	HnRNP U connects with pathological conditions such as cancer and neurodegenerative diseases. Its altered expression or mutation can disrupt chromatin structure leading to abnormal gene expression patterns. In cancer hnRNP U correlates with aberrant signaling pathways and may interact with oncoproteins driving tumor progression. In neurodegenerative disorders its association with RNA-binding proteins like TDP-43 suggests a role in the misregulation of RNA processing events contributing to neuronal dysfunction. Understanding hnRNP U's diverse functions helps clarify its potential as a therapeutic target.

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

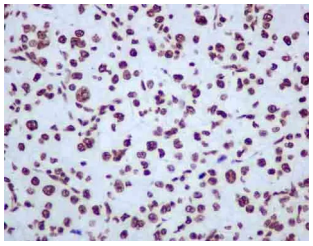
We do not recommend this combination. It is not covered by our product promise.

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.

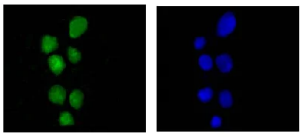
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

HnRNP U/p120 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-hnRNP U/p120 antibody

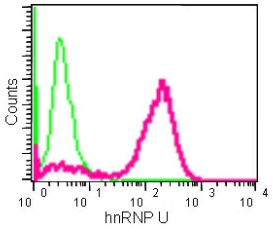
Immunohistochemical analysis of paraffin-embedded Human clear cell carcinoma of kidney labeling hnRNP U/p120 using ab180952 at a 1/100 dilution with Hematoxylin counter staining. Prediluted (ready to use) HRP Polymer for Rabbit IgG was used as a secondary antibody. Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

HnRNP U/p120 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-hnRNP U/p120 antibody

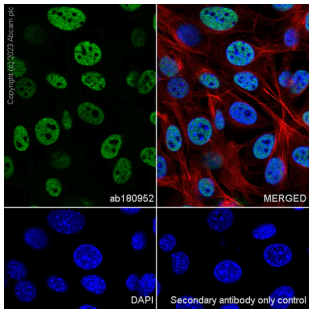
Immunofluorescence analysis of -20°C acetone-fixed Jurkat cells labeling hnRNP U/p120 using ab180952 at a 1/100 dilution (green) with Dapi counter staining (blue). Goat anti rabbit IgG (Dylight 488) at a dilution of 1/200 was used as a secondary antibody.



Flow Cytometry (Intracellular) - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

HnRNP U/p120 Flow Cytometry (Intracellular) staining using rabbit Anti-hnRNP U/p120 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed K562cells labeling hnRNP U/p120 using ab180952 at a 1/100 dilution, orRabbit monoclonal IgG as an isotype control.



Immunocytochemistry/ Immunofluorescence - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

HnRNP U/p120 Immunocytochemistry/ Immunofluorescence staining of Mouse NIH/3T3 cell line using rabbit Anti-hnRNP U/p120 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) labelling hnRNP U/p120 with ab180952 at 1/500 dilution (Green).

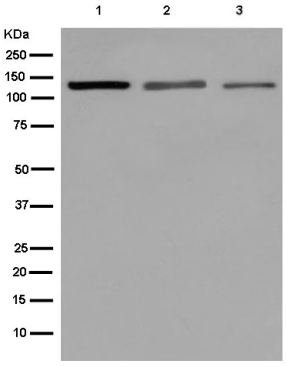
Confocal image showing nuclear staining in NIH/3T3 cell line.

Nuclear DNA was labelled with DAPI (shown in blue).

Secondary used was ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/ml).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody -Microtubule Marker (Alexa Fluor® 594) was used as a counterstain at 1/200 (2.5 µg/ml) dilution.

Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).



Western blot - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952) at 1/20000 dilution

Lane 1:
K562 cell lysate at 20 µg

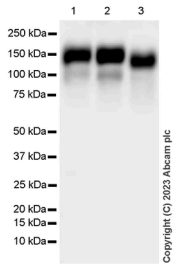
Lane 2:
Jurkat cell lysate at 20 µg

Lane 3:
293 cell lysate at 20 µg

Secondary

All lanes:
Peroxidase conjugated goat anti-rabbit IgG, (H+L) at 1/1000 dilution

Predicted band size: 91 kDa



Western blot - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

Blocking and dilution buffer: 5% NFDM/TBST

The lysates were freshly made and used for Western Blotting immediately to minimize protein degradation.

All lanes:
Western blot - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 3:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

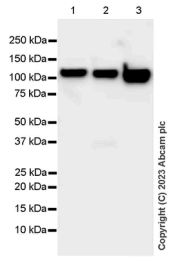
Secondary

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

Predicted band size: 91 kDa, 120 kDa

Observed band size: 120 kDa, 91 kDa

Exposure time: 1s



Western blot - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952)

Blocking and dilution buffer: 5% NFDM/TBST

The lysates were freshly made and used for Western Blotting immediately to minimize protein degradation.

All lanes:
Western blot - Anti-hnRNP U/p120 antibody [EPR12278(2)(B)] (ab180952) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse liver tissue lysate at 20 µg

Lane 3:
Mouse testis tissue lysate at 20 µg

Secondary

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

Predicted band size: 91 kDa

Observed band size: 120 kDa

Exposure time: 3s

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