abcam

ab185971

Anti-RYBP antibody [EPR13059(2)] - ChIP Grade

Recombinant | RabMAb

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	EPR13059(2)
Purification technique	Affinity purification Protein A
Concentration	0.499 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Expected

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

IP

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

ChIP

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

WB

Tested

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20 - 1/40
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information RYBP

Function	Component of a Polycomb group (PcG) multiprotein PRC1-like complex, a complex class required to maintain the transcriptionally repressive state of many genes, including Hox genes, throughout development. PcG PRC1-like complex acts via chromatin remodeling and modification of histones; it mediates monoubiquitination of histone H2A 'Lys-119', rendering chromatin heritably changed in its expressibility (PubMed:25519132). Component of a PRC1-like complex that mediates monoubiquitination of histone H2A 'Lys-119' on the X chromosome and is required for normal silencing of one copy of the X chromosome in XX females. May stimulate ubiquitination of histone H2A 'Lys-119' by recruiting the complex to target sites (By similarity). Inhibits ubiquitination and subsequent degradation of TP53, and thereby plays a role in regulating transcription of TP53 target genes (PubMed:19098711). May also regulate the ubiquitin-mediated proteasomal degradation of other proteins like FANK1 to regulate apoptosis (PubMed:14765135, PubMed:27060496). May be implicated in the regulation of the transcription as a repressor of the transcriptional activity of E4TF1 (PubMed:11953439). May bind to DNA (By similarity). May play a role in the repression of tumor growth and metastasis in breast cancer by down-regulating SRRM3 (PubMed:27748911).

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	RYBP also known as Ring1 and YY1 Binding Protein has a critical mechanical role in gene regulation. It has a molecular weight of approximately 28 kDa. It is a part of the Polycomb group (PcG) proteins which take part in chromatin remodeling to regulate gene expression. RYBP is found in the nucleus of cells and is known to bind DNA directly. Its expression occurs widely across various tissues indicating its broad involvement in cellular functions.
Biological function summary	This protein actively participates in maintaining transcriptional repression through its involvement in the Polycomb Repressive Complex 1 (PRC1). PRC1 includes other key proteins such as Ring1A/B and CBX proteins which work together to modulate chromatin structure. RYBP contributes to the ubiquitination of histone H2A a process essential for maintaining gene silencing. This activity is important during developmental stages influencing cell fate decisions and lineage commitment.
Pathways	RYBP plays an essential role in the regulation of the Wnt signaling pathway and the apoptosis pathway. Within the Wnt pathway RYBP acts in part by interacting with proteins such as β-catenin influencing cell proliferation and differentiation. In the apoptosis pathway it is involved through its interactions with E3 ubiquitin ligases potentially affecting cell death regulation. These pathways showcase how RYBP integrates into important cellular processes impacting cellular homeostasis.
Associated diseases and disorders	RYBP has connections to cancer and neurodevelopmental disorders. Its altered expression is linked to tumor progression where it interacts with other PcG

proteins like EZH2 often showing overexpression in cancers. These interactions can lead to abnormal gene silencing contributing to oncogenesis. In neurodevelopmental contexts disruptions in RYBP's function are associated with changes in neural differentiation and might correlate with disorders like autism spectrum disorders highlighting its broader relevance beyond typical gene expression roles.

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.

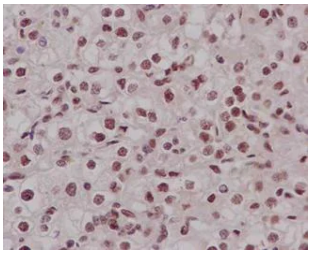
13 product images



Immunocytochemistry/ Immunofluorescence - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RYBP antibody

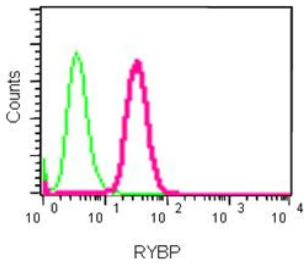
Immunofluorescence analysis of, paraformaldehyde-fixed, HepG2 cells labeling RYBP with ab185971 at a 1/250 dilution. As secondary antibody goat anti-rabbit IgG (Alexa Fluor®555) was used at a 1/200. In blue DAPI staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RYBP antibody

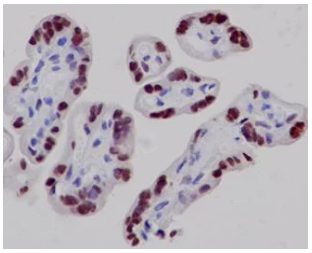
Immunohistochemical analysis of paraffin-embedded, Human clear cell carcinoma kidney tissue labeling RYBP with ab185971 at a 1/100 dilution. Counter stained with hematoxylin.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP Flow Cytometry (Intracellular) staining using rabbit Anti-RYBP antibody

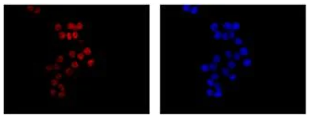
Intracellular Flow Cytometry analysis of paraformaldehyde-fixed K562 cells labeling RYBP with ab185971 at a 1/40 dilution and secondary antibody goat anti-rabbit IgG (FITC, red) at a 1/150 dilution, or negative control rabbit IgG (green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RYBP antibody

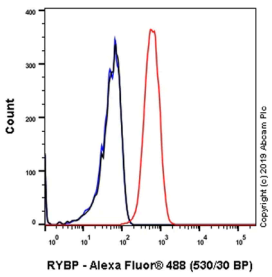
Immunohistochemical analysis of paraffin-embedded, Human placenta tissue labeling RYBP with ab185971 at a 1/100 dilution. Counter stained with hematoxylin.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RYBP antibody

Immunofluorescence analysis of, paraformaldehyde-fixed, SW480 cells labeling RYBP with ab185971 at a 1/250 dilution. As secondary antibody goat anti-rabbit IgG (Alexa Fluor®555) was used at a 1/200. In blue DAPI staining.



Flow Cytometry (Intracellular) - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

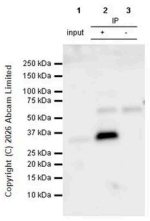
RYBP Flow Cytometry (Intracellular) staining using rabbit Anti-RYBP antibody

Intracellular Flow Cytometry analysis of A431 (Human epidermoid carcinoma epithelial cell) cells labeling RYBP with purified ab185971 at 1/20 dilution (11.7µg/mL) (Red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) (black). Unlabeled control - Unlabelled cells (blue).



ChIP - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

Chromatin was prepared from HEK293 cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with EGS for 30 minutes, then formaldehyde for 10 minutes.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab185971 (red), and 20 µl of Protein A/G sepharose beads. 5 µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).
Primers and probes are located in the first kb of the transcribed region.



Immunoprecipitation - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP was immunoprecipitated from HEK-293 (human embryonic kidney epithelial cell) whole cell lysate 10 µg with ab185971 1/1000 dilution. Western blot was performed on the immunoprecipitate using ab185971 at 1/1000 dilution. Capture antibody, 1:30 dilution (2µg in 0.35mg lysates).
Rabbit monoclonal IgG (ab172730) Isotype Control was used instead of ab185971 in HEK-293 whole cell lysate (Lane 3).

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

To minimize protein degradation, cells were lysed immediately after harvest and then applied for Immunoprecipitation as soon as possible.

All lanes:
Immunoprecipitation - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971) at 1/1000 dilution

Lane 1:
HEK-293 (human embryonic kidney epithelial cell) whole cell lysate (Low Expression Sample) at 10 µg

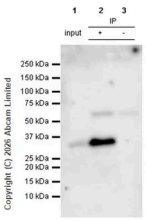
Lane 2:
HEK-293 (human embryonic kidney epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 32 kDa

Exposure time: 15s



Immunoprecipitation - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

RYBP was immunoprecipitated from NIH/3T3 (mouse embryonic fibroblast) whole cell lysate 10 µg with ab185971 1/1000 dilution. Western blot was performed on the immunoprecipitate using ab185971 at 1/1000 dilution. Capture antibody, 1:30 dilution (2µg in 0.35mg lysates).
Rabbit monoclonal IgG (ab172730) Isotype Control was used instead of ab185971 in NIH/3T3 whole cell lysate (Lane 3).

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

To minimize protein degradation, cells were lysed immediately after harvest and then applied for Immunoprecipitation as soon as possible.

All lanes:
Immunoprecipitation - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate (Low Expression Sample) 10 µg

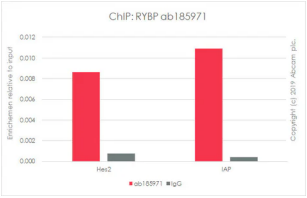
Lane 2:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

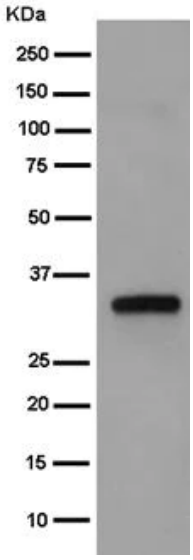
Observed band size: 32 kDa

Exposure time: 24s



ChIP - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

Chromatin was prepared from NIH/3T3 cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with EGS for 30 minutes, then formaldehyde for 10 minutes.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab185971 (red), and 20 µl of Protein A/G sepharose beads. 5 µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).
Primers and probes are located in the first kb of the transcribed region.



Western blot - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

All lanes:
Western blot - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971) at 1/10000 dilution

All lanes:
HepG2 cell lysate at 20 µg

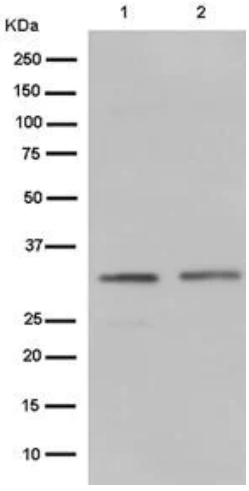
Secondary

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

Developed using the ECL technique.

Predicted band size: 25 kDa

Observed band size: 32 kDa



Western blot - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

All lanes:
Western blot - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971) at 1/1000 dilution

Lane 1:
K562 cell lysate at 20 µg

Lane 2:
SW480 cell lysate at 20 µg

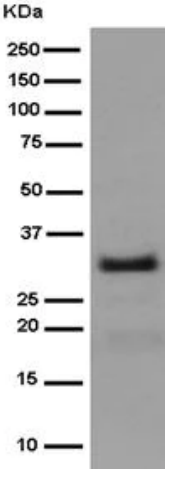
Secondary

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

Developed using the ECL technique.

Predicted band size: 25 kDa

Observed band size: 32 kDa



Western blot - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971)

All lanes:
Western blot - Anti-RYBP antibody [EPR13059(2)] - ChIP Grade (ab185971) at 1/1000 dilution

All lanes:
rat PC12 cell lysate at 10 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 25 kDa

Observed band size: 32 kDa

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