abcam

ab33907

Anti-Rel B antibody [EP614Y]

Recombinant | RabMAb | KO Validated

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	EP614Y
Purification technique	Affinity purification Protein A
Concentration	0.341 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/40 - 1/50
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/2000 - 1/20000
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/70
Notes	For unpurified, use 1/1000. ab172730 - Rabbit monoclonal IgG is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	-

ChIP

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information RELB

Function NF-kappa-B is a pleiotropic transcription factor which is present in almost all cell types and is involved in many biological processed such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain-containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by

various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, I-kappa-B is phosphorylated by I-kappa-B kinases (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. NF-kappa-B heterodimeric RelB-p50 and RelB-p52 complexes are transcriptional activators. RELB neither associates with DNA nor with RELA/p65 or REL. Stimulates promoter activity in the presence of NFKB2/p49. As a member of the NUPR1/RELB/IER3 survival pathway, may provide pancreatic ductal adenocarcinoma with remarkable resistance to cell stress, such as starvation or gemcitabine treatment. Regulates the circadian clock by repressing the transcriptional activator activity of the CLOCK-BMAL1 heterodimer in a CRY1/CRY2 independent manner. Increased repression of the heterodimer is seen in the presence of NFKB2/p52. Is required for both T and B lymphocyte maturation and function (PubMed:26385063).

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

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	Rel B also known as RELB proto-oncogene is a member of the NF-κB family of transcription factors. This protein plays a significant role in regulating gene expression. Rel B has a molecular mass of approximately 68 kDa. It expresses in diverse tissues including lymphoid organs and epithelial cells. It generally resides in the cytoplasm and translocates to the nucleus upon activation.
Biological function summary	Rel B serves as a critical component of the alternative NF-κB signaling pathway. It often forms a complex with another NF-κB family member called p52. This complex controls the transcription of genes involved in the immune response cell survival and differentiation. Additionally Rel B contributes to the development of secondary lymphoid organs and modulation of immune responses.
Pathways	Rel B integrates into the non-canonical NF-κB signaling pathway also influencing the canonical pathway to a lesser extent. In the non-canonical pathway Rel B interacts with NIK and p100 to influence immune cell function. This involvement makes Rel B essential in processes like adaptive immunity and inflammatory responses. The protein p52 closely associates with Rel B aiding its activity in these pathways.
Associated diseases and disorders	Rel B has connections to autoimmune diseases and certain cancers. Abnormal Rel B activity can lead to chronic inflammation and contribute to conditions like rheumatoid arthritis. In cancer its deregulation associates with lymphomas where it may interact with other NF-κB proteins like p50 and RelA affecting cell proliferation and survival. Understanding Rel B in these contexts could provide insights into therapeutic targets.

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

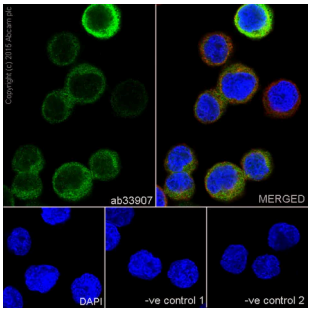
We do not recommend this combination. It is not covered by our product promise.

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.

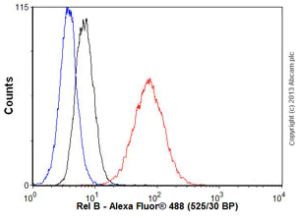
8 product images



Immunocytochemistry/ Immunofluorescence - Anti-Rel B antibody [EP614Y] (ab33907)

Rel B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Rel B antibody

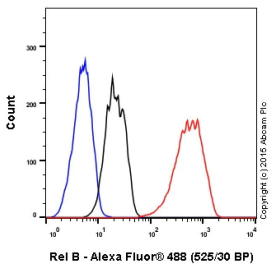
Immunofluorescence staining of Raji cells with purified ab33907 at a working dilution of 1/100, counter-stained with DAPI. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with ab150120 (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in the top right hand panel. The cells were fixed in 4 % PFA and permeabilized using 0.1% Triton X 100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, purified ab33907 was used at a dilution of 1/500 followed by an Alexa Fluor® 594 goat anti-mouse antibody (ab150120) at a dilution of 1/500. For negative control 2, ab7291 (mouse anti-tubulin) was used at a dilution of 1/500 followed by an Alexa Fluor® 488 goat anti-rabbit antibody (ab150077) at a dilution of 1/400.



Flow Cytometry (Intracellular) - Anti-Rel B antibody [EP614Y] (ab33907)

Rel B Flow Cytometry (Intracellular) staining using rabbit Anti-Rel B antibody

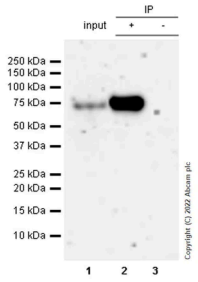
Overlay histogram showing Raji cells stained with unpurified ab33907 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab33907, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluorr® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in Raji cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Flow Cytometry (Intracellular) - Anti-Rel B antibody [EP614Y] (ab33907)

Rel B Flow Cytometry (Intracellular) staining using rabbit Anti-Rel B antibody

Overlay histogram showing Raji cells fixed in 80% methanol and stained with purified ab33907 at a dilution of 1/70 (red line). The secondary antibody used was Alexa Fluorr® 488 goat anti-rabbit at a dilution of 1/500. Rabbit monoclonal IgG was used as an isotype control (black line) and cells incubated in the absence of both primary and secondary antibody were used as a negative control (blue line).



Immunoprecipitation - Anti-Rel B antibody [EP614Y] (ab33907)

Rel B was immunoprecipitated from 0.35 mg of Raji (human Burkitt's lymphoma B lymphocyte), whole cell lysate with ab33907 at 1/30 dilution. Western blot was performed from the immunoprecipitate using 33907 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/5000 dilution. Lane 1: Raji whole cell lysate 10 µg (Input). Lane 2: ab33907 IP in Raji whole cell lysate. Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab33907 in Raji whole cell lysate. Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 180 seconds.
All lanes:
Immunoprecipitation - Anti-Rel B antibody [EP614Y] (ab33907) at 1/1000 dilution

Lane 1:
Raji whole cell lysate at 10 µg

Lane 2:
ab33907 IP in Raji whole cell lysate

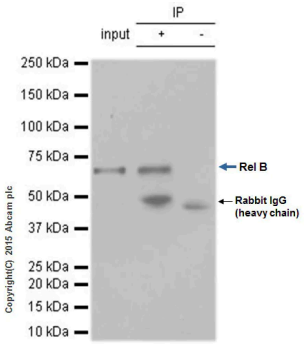
Secondary

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

Predicted band size: 62 kDa

Observed band size: 62 kDa

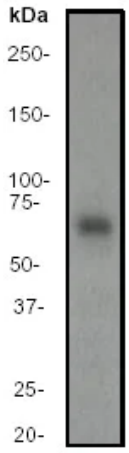
Exposure time: 180s



Immunoprecipitation - Anti-Rel B antibody [EP614Y] (ab33907)

ab33907 (purified) at 1/20 immunoprecipitating Rel B in 10 µg Daudi cell lysate (Lanes 1 and 2, observed at 70 kDa). Lane 3 - Rabbit monoclonal IgG (ab172730). For western blotting, HRP Veriblot for IP (ab131366) was used for detection (1/1000). Blocking buffer and concentration: 5% NFDM/TBST Dilution buffer and concentration: 5% NFDM/TBST
All lanes:
Immunoprecipitation - Anti-Rel B antibody [EP614Y] (ab33907)

Predicted band size: 62 kDa



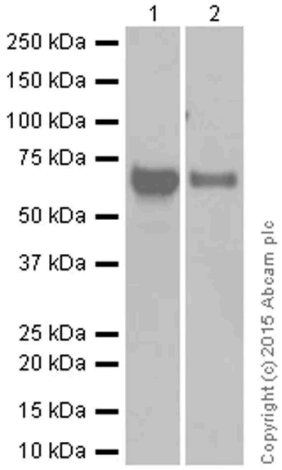
Western blot - Anti-Rel B antibody [EP614Y] (ab33907)

All lanes:
Western blot - Anti-Rel B antibody [EP614Y] (ab33907) at 1/20000 dilution

All lanes:
Raji Cell Lysate

Predicted band size: 62 kDa

Observed band size: 62 kDa



Western blot - Anti-Rel B antibody [EP614Y] (ab33907)

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-Rel B antibody [EP614Y] (ab33907) at 1/2000 dilution

Lane 1:
Raji cell lysate at 20 µg

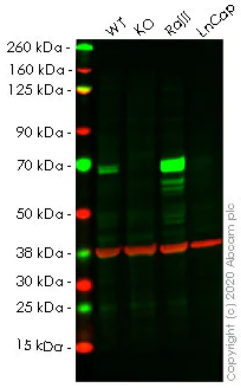
Lane 2:
Daudi cell lysate at 20 µg

Secondary

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

Predicted band size: 62 kDa

Observed band size: 70 kDa



Western blot - Anti-Rel B antibody [EP614Y] (ab33907)

Rel B Western blot staining using rabbit Anti-Rel B antibody

Lanes 1- 4: Merged signal (red and green). Green - ab33907 observed at 70 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab33907 was shown to react with Rel B in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab265948 (knockout cell lysate ab257635) was used. Wild-type HeLa and RELB knockout HeLa cell lysates were subjected to SDS-PAGE. ab33907 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at a 1 in 1000 Dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Rel B antibody [EP614Y] (ab33907) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 40 µg

Lane 2:

RELB knockout HeLa cell lysate at 40 µg

Lane 2:
Western blot - Human RELB (Rel B) knockout HeLa cell line (ab265948)

Lane 3:
Raji cell lysate at 40 µg

Lane 4:
LnCap cell lysate at 40 µg

Performed under reducing conditions.

Predicted band size: 62 kDa

Observed band size: 70 kDa

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