abcam

ab202985

Anti-RIP antibody [EPR19697]

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	EPR19697
Purification technique	Affinity purification Protein A
Concentration	0.568 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/200
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Ripk1

Function

Serine-threonine kinase which is a key regulator of TNF-mediated apoptosis, necroptosis and inflammatory pathways (PubMed:24557836, PubMed:24813849, PubMed:24813850, PubMed:27819681, PubMed:28842570, PubMed:31511692, PubMed:31827280, PubMed:31827281, PubMed:33397971). Exhibits kinase activity-dependent functions that regulate cell death and kinase-independent scaffold functions regulating inflammatory signaling and cell survival (PubMed:24557836, PubMed:24813849, PubMed:24813850, PubMed:28842570, PubMed:31519886, PubMed:31519887). Has kinase-independent scaffold functions: upon binding of TNF to TNFR1, RIPK1 is recruited to the TNF-R1 signaling complex (TNF-RSC also known as complex I) where it acts as a scaffold protein promoting cell survival, in part, by activating the canonical NF-kappa-B pathway (PubMed:31519886, PubMed:31519887). Kinase activity is essential to regulate necroptosis and apoptosis, two parallel forms of cell death: upon activation of its protein kinase activity, regulates assembly of two death-inducing complexes, namely complex IIa (RIPK1-FADD-CASP8), which drives apoptosis, and the complex IIb (RIPK1-RIPK3-MLKL), which drives necroptosis (PubMed:27819681, PubMed:27819682, PubMed:28842570, PubMed:29440439, PubMed:30988283, PubMed:31519886, PubMed:31519887). RIPK1 is required to limit CASP8-dependent TNFR1-induced apoptosis (PubMed:24557836, PubMed:24813849, PubMed:24813850). In normal conditions, RIPK1 acts as an inhibitor of RIPK3-dependent necroptosis, a process mediated by RIPK3 component of complex IIb, which catalyzes phosphorylation of

MLKL upon induction by ZBP1 (PubMed:24557836, PubMed:27819681, PubMed:27819682, PubMed:31358656). Inhibits RIPK3-mediated necroptosis via FADD-mediated recruitment of CASP8, which cleaves RIPK1 and limits TNF-induced necroptosis (PubMed:31358656). Required to inhibit apoptosis and necroptosis during embryonic development: acts by preventing the interaction of TRADD with FADD thereby limiting aberrant activation of CASP8 (PubMed:30185824, PubMed:30867408). In addition to apoptosis and necroptosis, also involved in inflammatory response by promoting transcriptional production of pro-inflammatory cytokines, such as interleukin-6 (IL6) (PubMed:31827280, PubMed:31827281). Phosphorylates RIPK3: RIPK1 and RIPK3 undergo reciprocal auto- and trans-phosphorylation (By similarity). Phosphorylates DAB2IP at 'Ser-728' in a TNF-dependent manner, and thereby activates the MAP3K5-JNK apoptotic cascade (By similarity). Required for ZBP1-induced NF-kappa-B activation in response to DNA damage (PubMed:12654725, PubMed:19590578).

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	RIP also known as Receptor-Interacting Protein or RIPK1 is a serine/threonine-protein kinase with a mass of approximately 74 kDa. It plays an important role in cell death and survival signaling pathways. RIP is expressed ubiquitously across various tissues indicating its importance in many cellular functions. The protein contains a kinase domain an intermediate domain for protein-protein interactions and a death domain which facilitates its involvement in apoptotic signaling processes.
Biological function summary	Receptor-Interacting Protein Kinase 1 (RIPK1) participates in regulating both necroptosis and apoptosis distinguishing itself as an important mediator in cell death mechanisms. As part of the necrosome complex which includes RIPK3 and MLKL RIPK1 functions in necroptosis—a programmed form of necrosis. This characteristic involvement shows its dual role in maintaining cell fate decisions making it an integral part of immune response and inflammation control.
Pathways	RIPK1 strongly associates with the TNF signaling pathway and NF-kB pathway. Its interaction with TNF receptor 1 (TNFR1) and consequent involvement with TRADD and TRAF2 mediates the signal transduction necessary for the activation of NF-kB leading to transcription of genes involved in survival and inflammation. This connection illustrates its capability to switch between promoting cell survival through NF-kB and facilitating cell death via necroptosis or apoptosis depending on cellular context and cues.
Associated diseases and disorders	RIPK1 plays a significant role in conditions such as inflammatory diseases and neurodegenerative disorders. Its overactivation results in excessive cell death implicated in inflammatory conditions; necrostatin a necroptosis inhibitor targets RIPK1 to potentially mitigate this damage. Furthermore RIPK1's dysregulation links to Alzheimer's disease where it can interact with components like RIPK3 to exacerbate neurodegenerative processes. This relationship underlines the potential of targeting RIPK1 therapeutically to manage inflammation and neurodegeneration.

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

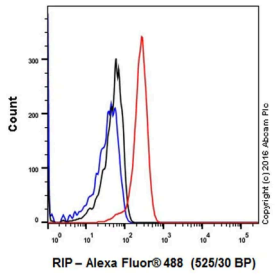
We do not recommend this combination. It is not covered by our product promise.

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.

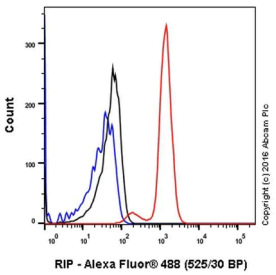
6 product images



Flow Cytometry (Intracellular) - Anti-RIP antibody [EPR19697] (ab202985)

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

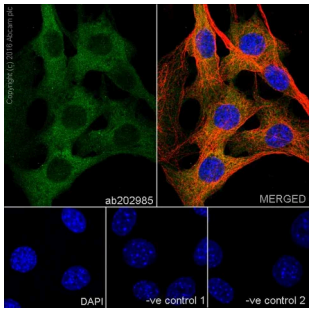
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling RIPwith ab202985 at 1/500 dilution (red) compared with a Rabbit IgG,monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti Rabbit IgG (Alexa Fluorr® 488) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-RIP antibody [EPR19697] (ab202985)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) cells labeling RIPwith ab202985 at 1/500 dilution (red) compared with a Rabbit IgG,monoclonal[EPR25A] - Isotype Control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti Rabbit IgG (Alexa Fluorr® 488) at 1/2000 dilution was used as the secondary antibody.

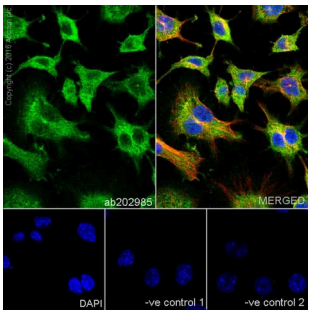


Immunocytochemistry/ Immunofluorescence - Anti-RIP antibody [EPR19697] (ab202985)

RIP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RIP antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling RIP with ab202985 at 1/200 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). The results show cytoplasmic staining on NIH/3T3 cells. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab202985 at 1/200 dilution followed by ab150120 at 1/1000 dilution.

-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.

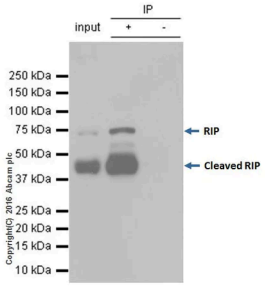


Immunocytochemistry/ Immunofluorescence - Anti-RIP antibody [EPR19697] (ab202985)

RIP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RIP antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) cells labeling RIP with ab202985 at 1/200 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). The results show cytoplasmic staining on RAW 264.7 cells. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab202985 at 1/200 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunoprecipitation - Anti-RIP antibody [EPR19697] (ab202985)

ab202985 Immunoprecipitating RIP in mouse embryo whole cell lysate. 2µg of capture antibody per 0.35mg of lysate was used. 10µg of cell lysate was incubated with primary antibody at a dilution of 1/1000 and VeriBlot for IP Detection Reagent (HRP) ab131366 was used for detection of 1/1000.
Lane 1: NIH/3T3 (mouse embryo) whole cell lysate
Lane 2: NIH/3T3 (mouse embryo) whole cell lysate
Lane 3: Rabbit monoclonal IgG ab172730 instead of ab202985 in NIH/3T3 (mouse embryo) whole cell lysate

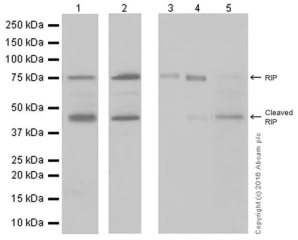
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-RIP antibody [EPR19697] (ab202985)

Predicted band size: 75 kDa

Observed band size: 75 kDa

Exposure time: 3s



Western blot - Anti-RIP antibody [EPR19697] (ab202985)

RIP Western blot staining using rabbit Anti-RIP antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1: 8 seconds; Lane 2: 15 seconds; Lane 3-5: 3 minutes.

The molecular weight observed is consistent with what has been described in the literatures (PMID: 15314284 & 10521396).

All lanes:
Western blot - Anti-RIP antibody [EPR19697] (ab202985) at 1/1000 dilution

Lane 1:
NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate at 10 µg

Lane 2:
RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 3:
Mouse brain lysate at 10 µg

Lane 4:
Mouse heart lysate at 10 µg

Lane 5:
Mouse kidney lysate at 10 µg

Secondary

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

Predicted band size: 75 kDa

Observed band size: 44 kDa, 75 kDa

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