abcam

ab317328

Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR29131-34
Purification technique	Affinity purification Protein A
Concentration	1.034 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Transfected cell line - Mouse, Mouse, Rat
Dilution info	-

Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Mouse
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information Rims1

Function	Rab effector involved in exocytosis (PubMed:11797009). May act as scaffold protein that regulates neurotransmitter release at the active zone. Essential for maintaining normal probability of neurotransmitter release and for regulating release during short-term synaptic plasticity (PubMed:11797009). Plays a role in dendrite formation by melanocytes (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C

Notes

ab317328 is the carrier-free version of ab317327.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	RIM1 also known as Rab3-interacting molecule 1 is a protein with a mass of approximately 200 kDa. It serves as an important component in the exocytosis process by regulating synaptic vesicle release in the presynaptic terminal. RIM1 interacts with various proteins such as Munc13-1 and is integral to synaptic vesicle docking and priming. This protein predominantly expresses in the brain especially in areas with high synaptic transmission needs like the hippocampus and cortex.
Biological function summary	This protein acts as an organizer of active zones in the presynaptic neuron ensuring efficient neurotransmitter release. RIM1 is part of a larger complex known as the presynaptic active zone complex which includes other critical proteins like RIM-BP and ELKS. These interactions stabilize synaptic function and facilitate rapid neurotransmission. Additionally RIM1 has a role in modulating calcium channel activity which is essential for triggering synaptic vesicle fusion.

Pathways	Various neurological signaling processes rely on the function of RIM1. This protein plays important roles in the pathways of synaptic vesicle cycling and neurotransmitter release directly influencing synaptic strength and plasticity. RIM1 closely interacts with the Rab3 GDP-GTP cycle and Munc13 both of which participate in neurotransmitter release processes. Proper function of these pathways ensures precise neuronal communication and adaptation.
Associated diseases and disorders	Any malfunction or mutation in RIM1 can significantly impact neurological health. The protein is linked to several neuropsychiatric disorders such as autism spectrum disorder and epilepsy. Researchers observed that disrupted RIM1 function correlates with aberrant synaptic transmission that can contribute to these conditions. In the context of epilepsy changes in RIM1 interaction with synaptic partners like RIM-BP and Munc13 can lead to irregular neuronal firing and seizures.

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

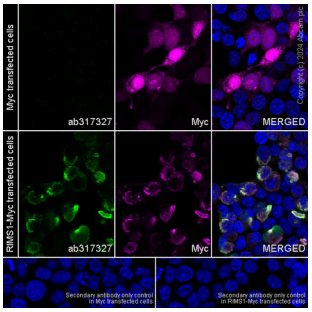
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

RIM1 Immunocytochemistry/ Immunofluorescence staining of 293T cells transfected with a mouse RIMS1 expression vector containing a myc-His-tag® using rabbit Anti-RIM1 antibody

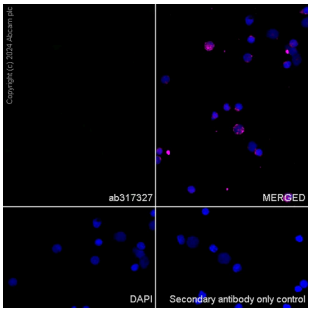
This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labelling RIM1 with ab317327 at 1/100 (5.17 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 positive staining in 293T cells transfected with a mouse RIMS1 expression vector containing a myc-His-tag® (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).

ab223894 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 594) was used to counterstain tubulin at 1/100 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.



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

RIM1 Immunocytochemistry/ Immunofluorescence staining of Rat splenocyte using rabbit Anti-RIM1 antibody

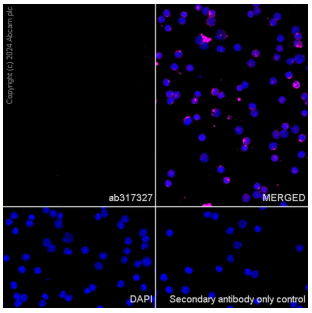
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Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Rat splenocyte cells labelling RIM1 with ab317327 at 1/100 (5.17 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Negative control: Confocal image showing no staining in rat splenocytes. 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 2.5ug/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.



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

RIM1 Immunocytochemistry/ Immunofluorescence staining of Mouse splenocyte using rabbit Anti-RIM1 antibody

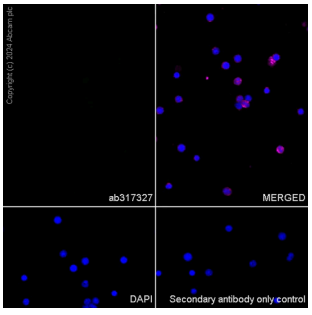
This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Mouse splenocyte cells labelling RIM1 with ab317327 at 1/100 (5.17 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).

Negative control: Confocal image showing no staining in mouse splenocytes. 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).

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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.



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

RIM1 Immunocytochemistry/ Immunofluorescence staining of Rat bone marrow using rabbit Anti-RIM1 antibody

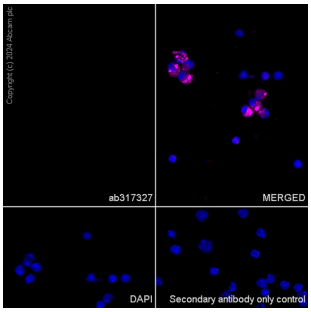
This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Rat bone marrow cells labelling RIM1 with ab317327 at 1/100 (5.17 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).

Negative control: Confocal image showing no staining in rat bone marrow. 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 2.5ug/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.



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

RIM1 Immunocytochemistry/ Immunofluorescence staining of Mouse bone marrow using rabbit Anti-RIM1 antibody

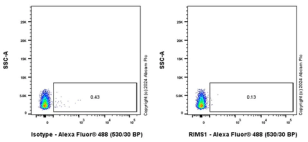
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Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Mouse bone marrow cells labelling RIM1 with ab317327 at 1/100 (5.17 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Negative control: Confocal image showing no staining in mouse bone marrow. 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 2.5ug/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 - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

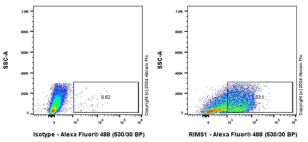
RIM1 Flow Cytometry staining of Mouse spleen cell using rabbit Anti-RIM1 antibody

This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse spleen cell cells labelling RIM1 with ab317327 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Negative control: mouse spleen cell



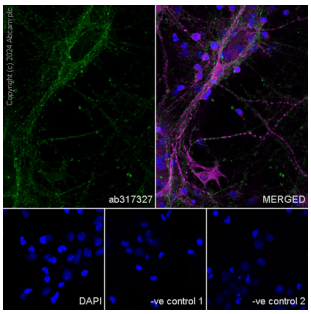
Flow Cytometry - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse primary neuron cells labelling RIM1 with ab317327 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control

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

Gated on viable cells.



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

RIM1 Immunocytochemistry/ Immunofluorescence staining of rat primary neural/glia cell using rabbit Anti-RIM1 antibody

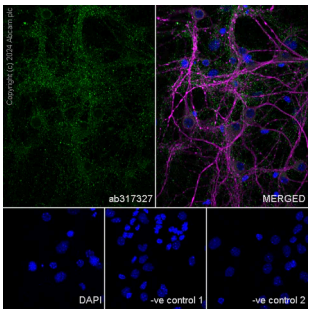
This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary neural/glia cell cells labelling RIM1 with ab317327 at 1/100 (5.17 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 positive staining in rat primary neuron (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4ug/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.



Immunocytochemistry/ Immunofluorescence - Anti-RIM1 antibody [EPR29131-34] - BSA and Azide free (ab317328)

This data was developed using ab317327, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neural/glia cell cells labelling RIM1 with ab317327 at 1/100 (5.17 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 positive staining in mouse primary neuron (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Confocal scanning Z step was set as 0.3 um followed by image processing with maximum Z projection. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4ug/ml dilution (Red). 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.

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