abcam

ab251357

Anti-REG3A + REG3G antibody [EPRR18188] - 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	EPRR18188
Purification technique	Affinity purification Protein A
Concentration	1.042 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Recombinant fragment - Human, Transfected cell line - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human, Human
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment - Human, Transfected cell line - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information REG3A

Function

Regenerating islet-derived protein 3-alpha 15 kDa form. Bactericidal C-type lectin which acts exclusively against Gram-positive bacteria and mediates bacterial killing by binding to surface-exposed carbohydrate moieties of peptidoglycan (PubMed:16931762). Binds membrane phospholipids and kills bacteria by forming a hexameric membrane-permeabilizing oligomeric pore (PubMed:24256734). Acts as a hormone in response to different stimuli like anti-inflammatory signals, such as IL17A, or gut microbiome. Secreted by different cell types to activate its receptor EXTL3 and induce cell specific signaling pathways (PubMed:19158046, PubMed:22727489, PubMed:27830702, PubMed:34099862). Induced by IL17A in keratinocytes, regulates keratinocyte proliferation and differentiation after skin injury via activation of EXTL3-PI3K-AKT signaling pathway (PubMed:22727489). In parallel, inhibits skin inflammation through the inhibition of inflammatory cytokines such as IL6 and TNF (PubMed:27830702). In pancreas, is able to permealize beta-cells membrane and stimulate their proliferation (PubMed:19158046). Regenerating islet-derived protein 3-alpha 16.5 kDa form. Has bacteriostatic activity.

Storage

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

Storage information	Do Not Freeze

Notes

ab251357 is the carrier-free version of ab202057.

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	REG3A also known as regenerating islet-derived protein 3 alpha and REG3G also known as regenerating islet-derived protein 3 gamma are small secretory proteins with molecular weights around 19 kDa. They are expressed mostly in the pancreas and gut epithelium. REG3A and REG3G contribute to the immune defense of the gastrointestinal tract. Their expression increases in response to inflammation and microbial presence acting as antimicrobial proteins that contribute to maintaining gut microbiota balance.
Biological function summary	Regenerating islet-derived proteins promote epithelial cell survival and are important in the mucosal immune response. Though not part of a larger complex these proteins bind to bacterial cell walls and disrupt their integrity causing lysis. They also recruit immune cells to sites of injury assisting in tissue repair. This ability highlights their role in coordinating the innate immune response within the gut.

Pathways	REG3A and REG3G participate in the intestinal innate immune pathways where they enhance host defense mechanisms against bacterial infections. They are interrelated with the Toll-like receptor signaling pathway which helps detect microbial patterns and initiate immune responses. REG3 proteins work in conjunction with other antimicrobial peptides to amplify the intestinal immune defense and contribute to regulation of inflammatory responses.
Associated diseases and disorders	Both proteins associate with inflammatory bowel diseases like Crohn's disease and ulcerative colitis. Increased levels of REG3A and REG3G occur in patients with these disorders indicating their possible involvement in mucosal inflammation and host-pathogen interactions. Their expression links to cytokines such as IL-22 and IL-17 which are upregulated during inflammatory responses suggesting that REG3 proteins might act in modulating pathways that sustain chronic inflammation in gut-related diseases.

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

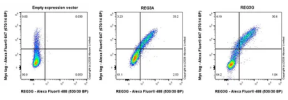
We do not recommend this combination. It is not covered by our product promise.

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.

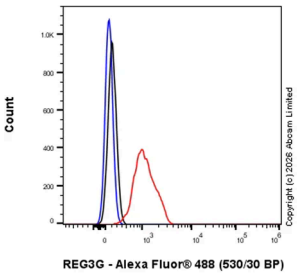
7 product images



Flow Cytometry (Intracellular) - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

REG3A + REG3G Flow Cytometry (Intracellular) staining using rabbit Anti-REG3A + REG3G antibody

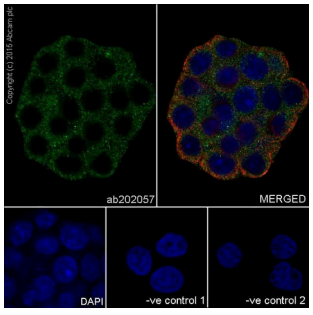
This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Flow cytometry (intracellular) analysis of transfected 293T cells. Cells were fixed with 4% PFA and permeabilised with 90% methanol before staining for REG3G and REG3A in 293T cells (human embryonic kidney epithelial cell) transfected with a human REG3G expression vector containing a Myc-His-tag® (Right), and 293T cells transfected with a human REG3A expression vector containing a Myc-His-tag® (Middle). Primary antibody ab202057 used at a 1/5000 dilution (0.01µg). Staining was compared with 293T cells transfected with an empty expression vector containing a myc-His-tag® (Left). Cells were co-stained with Myc tag conjugated to Alexa Fluor®647. Goat anti-rabbit IgG (Alexa Fluor® 488, ab150081) was used as the secondary antibody at a 1/5000 dilution.



Flow Cytometry (Intracellular) - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

REG3A + REG3G Flow Cytometry (Intracellular) staining using rabbit Anti-REG3A + REG3G antibody

This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Flow cytometric overlay histogram of 4% paraformaldehyde-fixed, 90% methanol permeabilised HT-29 (Human colorectal adenocarcinoma epithelial cell) cells labelling REG3A + REG3G with Anti-REG3A + REG3G antibody (ab202057) at 1 µg/test (1/50 dilution) (red line). Isotype control antibody (black line) was Rabbit IgG (monoclonal) (ab172730) used at the same concentration and conditions as the primary antibody. A Goat Anti-Rabbit IgG Alexa Fluor® 488 secondary antibody (ab150081) was used at 1/5000 dilution. Unlabelled sample (blue line), consisting of cells without incubation with either the primary or secondary antibody, was also used as a control.

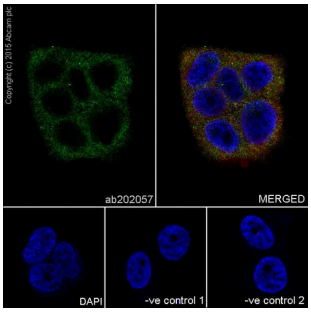


Immunocytochemistry/ Immunofluorescence - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

REG3A + REG3G Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-REG3A + REG3G antibody

This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% Methanol-fixed, 0.1% Triton X-100 permeabilized HT-29 (Human colorectal adenocarcinoma cells) cells labeling REG3G + REG3A with ab202057 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing cytoplasmic staining on HT-29 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:
-ve control 1: ab202057 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.

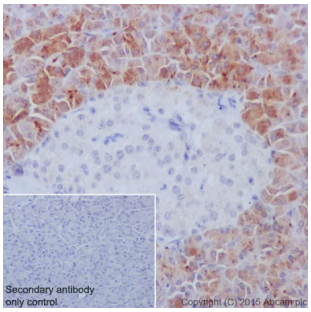


Immunocytochemistry/ Immunofluorescence - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

REG3A + REG3G Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-REG3A + REG3G antibody

This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized BxPC-3 (Human pancreas adenocarcinoma cells) cells labeling REG3G + REG3A with ab202057 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing cytoplasmic staining on BxPC-3 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:
-ve control 1: ab202057 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



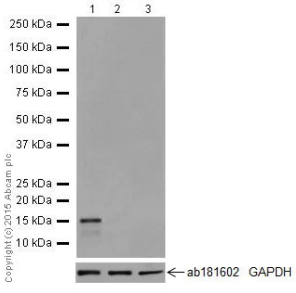
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

REG3A + REG3G Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-REG3A + REG3G antibody

This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human pancreas tissue labeling REG3G + REG3A with ab202057 at 1/600 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Cytoplasmic staining on Human pancreas tissue is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

The expression profile observed is consistent with what has been described in the literatures PMID: 12890698 & 22943287 for REG3A and PMID: 22252863 & 21254165 for REG3G.

Please note both Human fetal liver and brain represent negative controls for REG3A and REG3G.

All lanes:

Western blot - Anti-REG3A + REG3G antibody [EPRR18188] (ab202057) at 1/1000 dilution

Lane 1:
Human small intestine tissue lysate at 10 µg

Lane 2:
Human fetal liver tissue lysate at 10 µg

Lane 3:
Human fetal brain tissue lysate at 10 µg

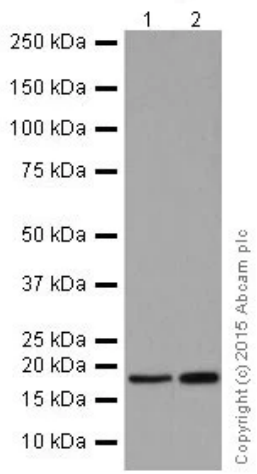
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 19 kDa, 35 kDa, 66 kDa

Observed band size: 16 kDa, 39 kDa, 67 kDa

Exposure time: 3min



Western blot - Anti-REG3A + REG3G antibody [EPRR18188] - BSA and Azide free (ab251357)

This data was developed using ab202057, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-REG3A + REG3G antibody [EPRR18188] (ab202057) at 1/10000 dilution

Lane 1:
REG3A recombinant protein fragment at 0.01 µg

Lane 2:
REG3G recombinant protein fragment at 0.01 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 19 kDa

Observed band size: 16 kDa

Exposure time: 15s

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