abcam

ab240247

Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR13986(B)
Purification technique	Affinity purification Protein A
Specificity	For WB, this antibody is not suitable for tissue lysate.
Concentration	1.05 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	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	For WB, this antibody is not suitable for tissue lysate.

Species	Human
Dilution info	-
Notes	For WB, this antibody is not suitable for tissue lysate.

Expected

Species	Rat
Dilution info	-
Notes	For WB, this antibody is not suitable for tissue lysate.

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information G3BP1

Function

Protein involved in various processes, such as stress granule formation and innate immunity (PubMed:12642610, PubMed:20180778, PubMed:23279204, PubMed:30510222, PubMed:30804210). Plays an essential role in stress granule formation (PubMed:12642610, PubMed:20180778, PubMed:23279204, PubMed:32302570, PubMed:32302571, PubMed:32302572, PubMed:34739333, PubMed:35977029, PubMed:36183834, PubMed:36279435, PubMed:36692217, PubMed:37379838). Stress granules are membraneless compartments that store mRNAs and proteins, such as stalled translation pre-initiation complexes, in response to stress (PubMed:12642610, PubMed:20180778, PubMed:23279204, PubMed:27022092, PubMed:32302570, PubMed:32302571, PubMed:32302572, PubMed:36279435, PubMed:37379838). Promotes formation of stress granules phase-separated membraneless compartment by undergoing liquid-liquid phase separation (LLPS) upon unfolded RNA-binding: functions as a molecular switch that triggers RNA-dependent LLPS in response to a rise in intracellular free RNA concentrations (PubMed:32302570, PubMed:32302571, PubMed:32302572, PubMed:34739333, PubMed:36279435, PubMed:36692217). Also acts as an ATP- and magnesium-dependent helicase: unwinds DNA/DNA, RNA/DNA, and RNA/RNA substrates with comparable efficiency (PubMed:9889278). Acts unidirectionally by moving in the 5' to 3' direction along the bound single-stranded DNA

(PubMed:9889278). Unwinds preferentially partial DNA and RNA duplexes having a 17 bp annealed portion and either a hanging 3' tail or hanging tails at both 5'- and 3'-ends (PubMed:9889278). Plays an essential role in innate immunity by promoting CGAS and RIGI activity (PubMed:30510222, PubMed:30804210). Participates in the DNA-triggered cGAS/STING pathway by promoting the DNA binding and activation of CGAS (PubMed:30510222). Triggers the condensation of cGAS, a process probably linked to the formation of membrane-less organelles (PubMed:34779554). Also enhances RIGI-induced type I interferon production probably by helping RIGI at sensing pathogenic RNA (PubMed:30804210). May also act as a phosphorylation-dependent sequence-specific endoribonuclease in vitro: Cleaves exclusively between cytosine and adenine and cleaves MYC mRNA preferentially at the 3'-UTR (PubMed:11604510).

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

ab240247 is the carrier-free version of ab181150.

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.

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

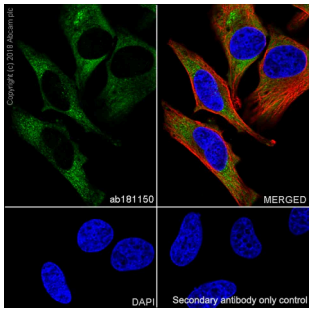
We do not recommend this combination. It is not covered by our product promise.

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.

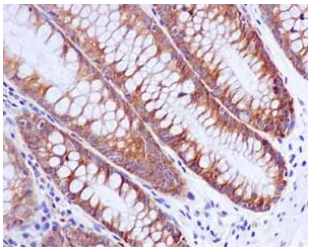
8 product images



Immunocytochemistry/ Immunofluorescence - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

G3BP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-G3BP antibody

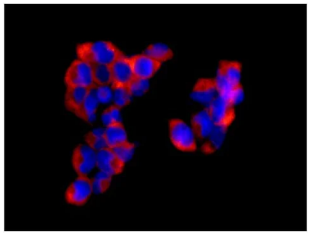
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling G3BP with purified ab181150 at 1/500 dilution (0.7 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

G3BP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-G3BP antibody

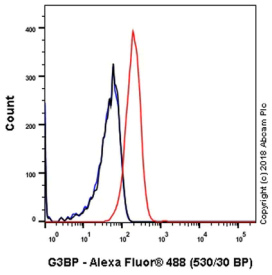
Immunohistochemical analysis of paraffin-embedded Human colon tissue staining G3BP using ab181150 (unpurified) at 1/100 dilution, and prediluted HRP Polymer for Rabbit IgG as a secondary antibody with Hematoxylin counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).



Immunocytochemistry/ Immunofluorescence - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

G3BP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-G3BP antibody

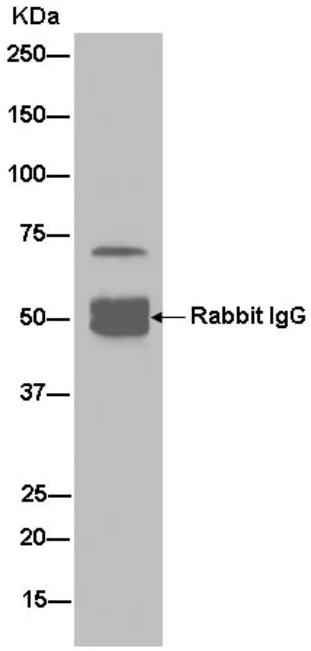
Immunofluorescent analysis of 4% paraformaldehyde fixed 293 cells staining G3BP using ab181150 (unpurified) at 1/100 dilution, and Alexa Fluor®555 stained Goat anti Rabbit IgG at 1/200 dilution as a secondary antibody (red). Dapi counterstain (blue)
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).



Flow Cytometry (Intracellular) - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

G3BP Flow Cytometry (Intracellular) staining using rabbit Anti-G3BP antibody

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling G3BP with purified ab181150 at 1/30 dilution (10µg/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. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).



Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Western blot analysis of G3BP in immunoprecipitation pellets from Ramos cell lysate, using ab181151 (unpurified) at a 1/50 dilution. Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated was used as a secondary antibody at 1/1000 dilution.

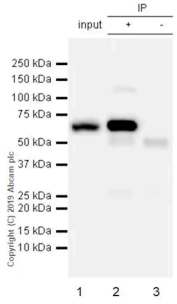
All lanes:
Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] (ab181150) at 1/50 dilution

All lanes:
Immunoprecipitate from Ramos cell lysate using ab181150

Secondary

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

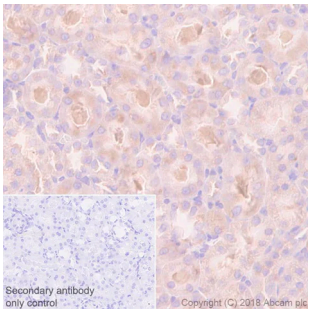
Predicted band size: 52 kDa



Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

ab181150 (purified) at 1/20 dilution (2ug) immunoprecipitating G3BP in Ramos whole cell lysate.
Ramos (Human Burkitt's lymphoma B lymphocyte) whole cell lysate 10ug
Lane 2 (+): ab181150 & Ramos whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab181150 in Ramos whole cell lysate
For western blotting, VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).
All lanes:
Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] (ab181150)

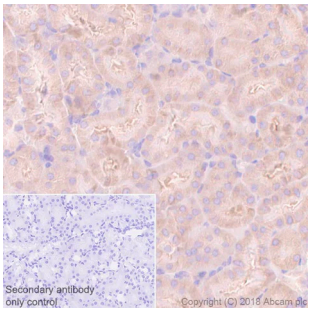
Predicted band size: 52 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

G3BP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-G3BP antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat kidney tissue sections labeling G3BP with purified ab181150 at 1/50 dilution (6.86 µg/ml). Heat mediated antigen retrieval was performed using Citrate buffer, pH6.0. ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] - BSA and Azide free (ab240247)

G3BP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-G3BP antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse kidney tissue sections labeling G3BP with purified ab181150 at 1/50 dilution (6.86 µg/ml). Heat mediated antigen retrieval was performed using Citrate buffer, pH6.0. ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181150).

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