abcam

ab181150

Anti-G3BP antibody [EPR13986(B)]

Anti-G3BP antibody [EPR13986(B)] (ab181150) is a rabbit monoclonal antibody detecting G3BP in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR13986(B)
Purification technique	Affinity purification Protein A
Specificity	For WB, this antibody is not suitable for tissue lysate
Concentration	0.32 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	For WB, this antibody is not suitable for tissue lysate

Species	Mouse
Dilution info	-
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	**For unpurified format use at 1/50 - 1/100 dilution.**

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.

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	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

What is this antibody validated in?
Anti-G3BP antibody [EPR13986(B)] (ab181150) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of G3BP?
Anti-G3BP [EPR13986(B)] (ab181150) specifically detects a band for G3BP (UniProt: Q13283) at a molecular weight of 52kDa.

Trusted by the scientific community
Anti-G3BP [EPR13986(B)] (ab181150) was first used in a scientific publication in 2014 and has been cited over 20 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-G3BP antibody [EPR13986(B)] (ab181150) has been confirmed by Western blot testing in G3BP1 Knockout A431 cells.

Other related products
We have a range of other formats of antibody clone [EPR13986(B)] also available for your convenience: ab181150, Alexa Fluor® 488 - ab214946, Alexa Fluor® 647 - ab215944, Alexa Fluor® 594 - ab217225, Carrier free - ab240247, PE - ab303056, APC - ab303057, HRP - ab303058, Alkaline Phosphatase - ab308720, Alexa Fluor® 555 - ab311965, Alexa Fluor® 568 - ab312437, Alexa Fluor® 750 - ab321249

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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.

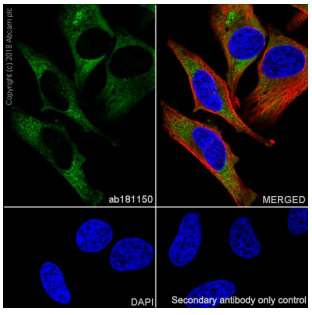
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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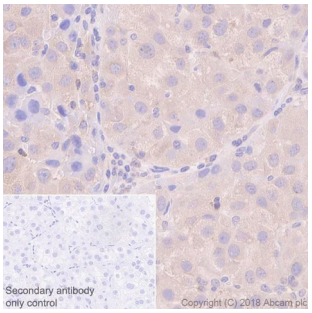
12 product images



Immunocytochemistry/ Immunofluorescence - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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.

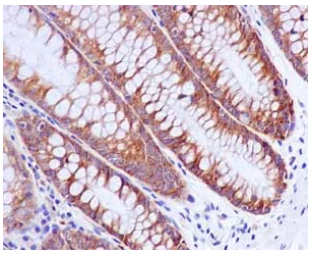


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human hepatocellular cancer tissue sections labeling G3BP with purified ab181150 at 1/50 dilution (6.86

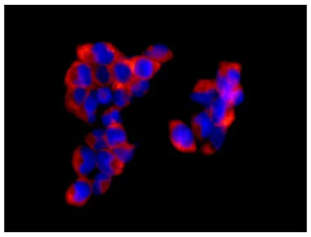
µg/ml). Heat mediated antigen retrieval was performed using Citrate buffer, pH 6.0. ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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

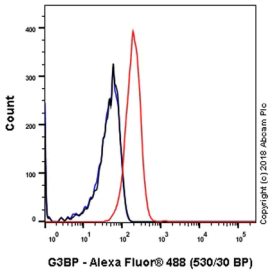
Immunohistochemical analysis of paraffin-embedded Human colon tissue staining G3BP using ab181150 (unpurified) at 1/100 dilution, and prediluted HRP Polymer for Rabbit IgG as a secondary antibody with Hematoxylin counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-G3BP antibody [EPR13986(B)] (ab181150)

G3BP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-G3BP antibody

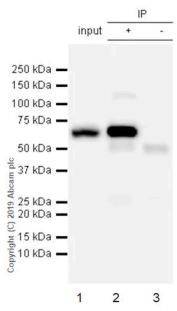
Immunofluorescent analysis of 4% paraformaldehyde fixed 293 cells staining G3BP using ab181150 (unpurified) at 1/100 dilution, and Alexa Fluor®555 stained Goat anti Rabbit IgG at 1/200 dilution as a secondary antibody (red). Dapi counterstain (blue)



Flow Cytometry (Intracellular) - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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

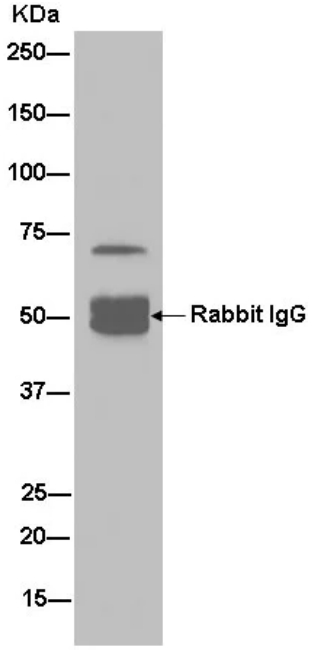
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling G3BP with purified ab181150 at 1/30 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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.
All lanes:
Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] (ab181150)

Predicted band size: 52 kDa



Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] (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.

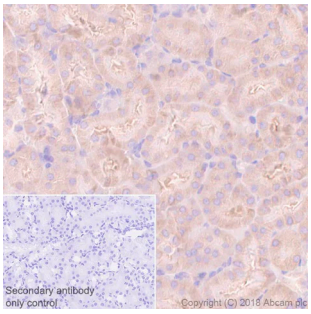
All lanes:
Immunoprecipitation - Anti-G3BP antibody [EPR13986(B)] (ab181150) at 1/50 dilution

All lanes:
Immunoprecipitate from Ramos cell lysate using ab181150

Secondary

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

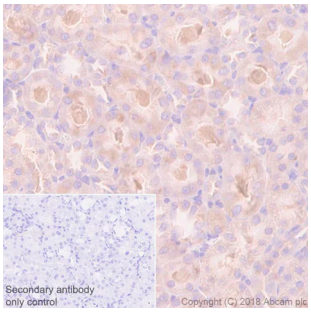
Predicted band size: 52 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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

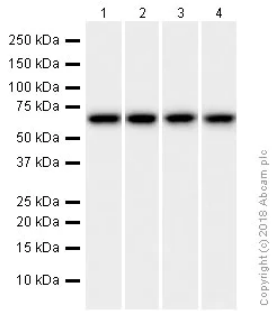
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse kidney tissue sections labeling G3BP with purified ab181150 at 1/50 dilution (6.86 µg/ml). Heat mediated antigen retrieval was performed using Citrate buffer, pH 6.0. ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [EPR13986(B)] (ab181150)

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, pH 6.0. 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.



Western blot - Anti-G3BP antibody [EPR13986(B)] (ab181150)

All lanes:
Western blot - Anti-G3BP antibody [EPR13986(B)] (ab181150) at 1/10000 dilution

Lane 1:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysates at 20 µg

Lane 2:
Ramos (Human Burkitt's lymphoma B lymphocyte) whole cell lysates at 20 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 20 µg

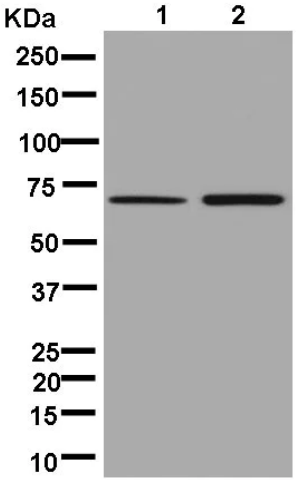
Lane 4:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 52 kDa

Observed band size: 68 kDa



Western blot - Anti-G3BP antibody [EPR13986(B)] (ab181150)

G3BP Western blot staining using rabbit Anti-G3BP antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
All lanes:
Western blot - Anti-G3BP antibody [EPR13986(B)] (ab181150) at 1/5000 dilution

Lane 1:
Jurkat cell lysate at 20 µg

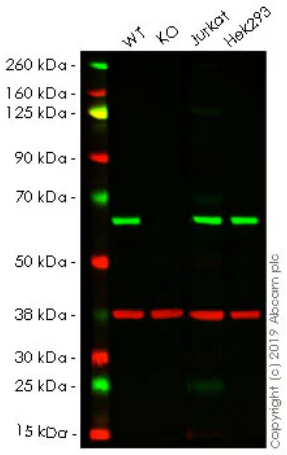
Lane 2:
Ramos cell lysate at 20 µg

Secondary

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

Predicted band size: 52 kDa

Observed band size: 68 kDa



Western blot - Anti-G3BP antibody [EPR13986(B)] (ab181150)

G3BP Western blot staining using rabbit Anti-G3BP antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab181150 observed at 68 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab181150 was shown to specifically react with G3BP1 in wild-type A431 cells as signal was lost in G3BP1 knockout cells. Wild-type and G3BP1 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. ab181150 and ab8245 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-G3BP antibody [EPR13986(B)] (ab181150) at 1/1000 dilution

Lane 1:
Wild-type A-431 (Human epidermoid carcinoma cell line) whole cell lysate at 20 µg

Lane 2:
G3BP1 knockout A-431 (Human epidermoid carcinoma cell line) whole cell lysate at 20 µg

Lane 3:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Lane 4:
HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 52 kDa

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