abcam

ab56574

Anti-G3BP antibody [2F3]

Anti-G3BP antibody [2F3] (ab56574) is a mouse monoclonal antibody detecting G3BP in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human**.

- Over 70 publications
- Trusted since 2007

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human G3BP1 aa 200 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q13283
Clone number	2F3
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
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	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-G3BP antibody [2F3] (ab56574) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of G3BP?

Anti-G3BP [2F3] (ab56574) specifically detects a band for G3BP (UniProt: Q13283) at a molecular weight of 52kDa.

Trusted by the scientific community
Anti-G3BP [2F3] (ab56574) was first used in a scientific publication in 2007 and has been cited over 70 times in peer-reviewed journals.

Reviewed by scientists
Anti-G3BP [2F3] (ab56574) has over 5 independent reviews from customers.

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

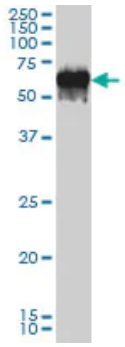
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



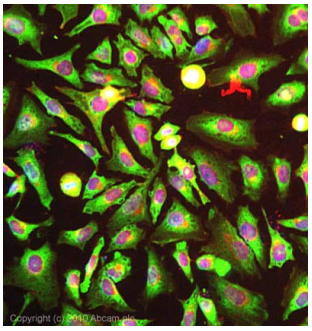
Western blot - Anti-G3BP antibody [2F3] (ab56574)

G3BP Western blot staining using mouse Anti-G3BP antibody

G3BP antibody (ab56574) at 1ug/lane + A-431 cell lysate at 25ug/lane.
This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-G3BP antibody [2F3] (ab56574)

Predicted band size: 52 kDa

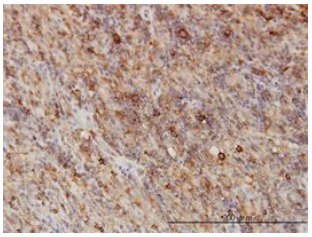


Immunocytochemistry/ Immunofluorescence - Anti-G3BP antibody [2F3] (ab56574)

G3BP Immunocytochemistry/ Immunofluorescence staining using mouse Anti-G3BP antibody

ICC/IF image of ab56574 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab56574, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

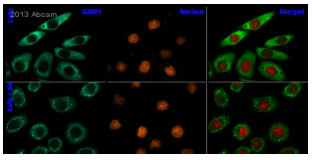
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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-G3BP antibody [2F3] (ab56574)

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

G3BP antibody (ab56574) used in immunohistochemistry at 1ug/ml on formalin fixed and paraffin embedded human lymphoma.
This image was generated using the ascites version of the product.



This image is courtesy of an anonymous customer review

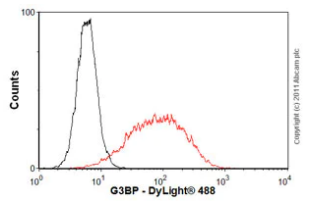
Immunocytochemistry/ Immunofluorescence - Anti-G3BP antibody [2F3] (ab56574)

G3BP Immunocytochemistry/ Immunofluorescence staining using mouse Anti-G3BP antibody

ab56574 staining G3BP in Human HeLa cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with formaldehyde, permeabilized with Triton X-100 and blocked with 5% BSA for 12 hours at 4°C. Samples were incubated with primary antibody (1/500 in PBS) for 1 hour at 37°C. An Alexa Fluor® 488-conjugated Goat anti-mouse IgG polyclonal (1/1000) was used as the secondary antibody.
Top row - untreated cells. Bottom row - cells treated with sodium arsenite. Left - G3BP, Middle - Nucleus, Right - Merge.

Stress granules are visible in cells treated with sodium arsenite, whereas G3BP is dispersed in the cytoplasm in untreated cells.

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Flow Cytometry - Anti-G3BP antibody [2F3] (ab56574)

G3BP Flow Cytometry staining using mouse Anti-G3BP antibody

Overlay histogram showing HeLa cells stained with ab56574 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells

were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab56574, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 80% methanol (5 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.
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Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.