abcam

ab13970

Anti-GFP antibody

Chicken anti-GFP antibody ab13970 is a chicken polyclonal antibody that is used in GFP western blotting and immunofluorescence.

Tried and trusted by researchers since 2004
Anti-GFP antibody ab13970 is cited in over 3820 publications
Same trusted quality, New lower price!

Key facts

Isotype	IgY
Host species	Chicken
Storage buffer	pH: 7 Preservative: 0.01% Thimerosal (merthiolate) Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.16% Sodium phosphate
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Full Length Protein corresponding to Aequorea victoria GFP. Database link P42212
Purity	IgY fraction
Specificity	Our GFP antibody does cross-react with the many fluorescent proteins that are derived from the jellyfish Aequorea victoria. These are all proteins that differ from the original GFP by just a few point mutations (EGFP, YFP, mVenus, CFP, BFP etc.).
Concentration	1 - 10 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Sterile filtered.

Reactivity data

WB

Tested

Species	Tag
Dilution info	1/5000
Notes	-

ICC/IF

Tested

Species	Tag
Dilution info	1/2000
Notes	Used at a dilution of 1/2000 for 1 hr (see Abreview for further information).

Storage

Shipped at conditions	Blue Ice
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

Abcam is leading the way to address reproducibility in scientific research with our highly validated recombinant monoclonal and recombinant multiclonal antibodies. Search & select one of Abcam's thousands of recombinant alternatives to eliminate batch-variability and unnecessary animal use.

If you do not find a host species to meet your needs, our catalogue and custom Chimeric range provides scientists the specificity of Abcam's RabMAbs in the species backbone of your choice. Remember to also review our range of edited cell lines, proteins and biochemicals relevant to your target that may help you further your research goals.

Abcam antibodies are extensively validated in a wide range of species and applications, so please check the reagent specifications meet your scientific needs before purchasing. If you have any questions or bespoke requirements, simply visit the Contact Us page to send us an inquiry or contact our Support Team ahead of purchase.

Supplementary info

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

Activity summary	GFP also known as Green Fluorescent Protein acts as a bioluminescent marker derived from the jellyfish Aequorea victoria. GFP is popular in molecular biology for its fluorescence properties making it useful for visualizing proteins. This protein has a molecular weight of approximately 27 kDa. Researchers and scientists often express GFP in various organisms as a luminescent tag helping them observe protein expression localization and interaction within cells. GFP tagging involves the fusion of GFP to a protein of interest enabling the study of the protein's function and dynamics without affecting the host cell.
Biological function summary	GFP serves as a marker due to its ability to emit green fluorescence without requiring additional substrates or cofactors. GFP does not function within complexes like other proteins but acts as a standalone tool to monitor physiological processes. Scientists utilize techniques such as Western blot ELISA and microscopy along with GFP to track and quantify proteins inside living cells. Anti-GFP antibodies can detect GFP fusion proteins in various applications providing valuable insights into protein behavior and allowing robust assays involving GFP.
Pathways	GFP itself does not participate actively in traditional biochemical or signaling pathways. Instead it enables visual tracking within pathways. Researchers utilize GFP to study pathways like MAPK/ERK and PI3K/AKT where they track proteins related to these pathways using GFP tagging. For instance fusing GFP with proteins like ERK1/2 allows tracking phosphorylation events and signal transduction in living cells leading to better understanding of cellular responses to different stimuli.
Associated diseases and disorders	Researchers use GFP as a model to study gene expression and protein interactions under disease conditions. For example in neurological disorders GFP helps visualize neuronal pathways and protein aggregation processes. By tagging proteins such as amyloid precursor protein (APP) or tau with GFP scientists can study their role in Alzheimer's disease progression. Similarly GFP facilitates the investigation of cancer pathways allowing visualization of tumor-related proteins and helping researchers study how cancer cells grow and invade tissues supporting cancer research and therapy development.

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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8 product images

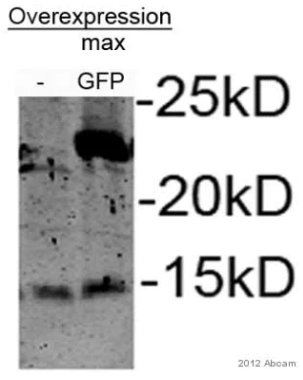


Image courtesy of an anonymous customer review.

Western blot - Anti-GFP antibody (ab13970)

All lanes:
Western blot - Anti-GFP antibody (ab13970) at 1/1000 dilution

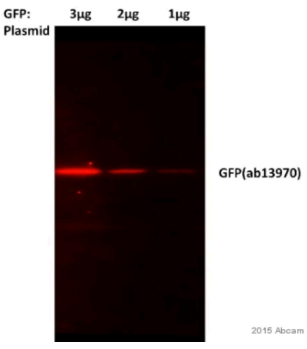
Lane 1:
Whole cell lysate prepared from HeLa (Human epithelial cell line from cervix adenocarcinoma) cells. at 25 µg

Lane 2:
Whole cell lysate prepared from HeLa cells. at 25 µg

Secondary

All lanes:
IRDye 800CW conjugated goat anti-chicken polyclonal at 1/15000 dilution

Predicted band size: 27 kDa



This image is courtesy of an anonymous customer

Western blot - Anti-GFP antibody (ab13970)

Gel Running Conditions: Reduced Denaturing (15% PAGE)

Detection method: Fluorescent Secondary Antibodies

All lanes:
Western blot - Anti-GFP antibody (ab13970) at 1/2000 dilution

Lane 1:
3 µg of GFP plasmid overexpressed in mouse cardiomyocytes whole cell lysate at 25 µg

Lane 2:

review

2 µg of GFP plasmid overexpressed in mouse cardiomyocytes whole cell lysate at 25 µg

Lane 3:
1 µg of GFP plasmid overexpressed in mouse cardiomyocytes whole cell lysate at 25 µg

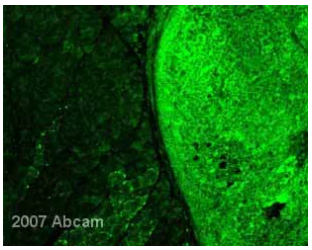
Secondary

All lanes:
Western blot - Goat Anti-Chicken IgY H&L (Alexa Fluor® 594) preadsorbed (ab150176) at 1/5000 dilution
Performed under reducing conditions.

Predicted band size: 27 kDa

Observed band size: 25 kDa

Exposure time: 30s



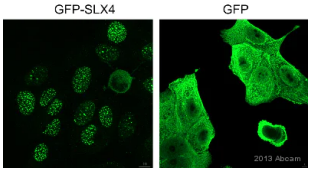
This image is courtesy of a customer review submitted by Dr Radbod Darabi

Immunocytochemistry/ Immunofluorescence - Anti-GFP antibody (ab13970)

GFP immunofluorescence staining of mouse muscle cells using chicken anti-GFP antibody

ab13970 staining GFP + tumor in mouse muscle cells by ICC/IF.

Cells were formaldehyde fixed and blocked with 3% BSA for 1 hour at 24°C prior to incubation with the primary antibody (1/500 dilution) for 1 hour at 24°C. An Alexa Fluor® 488 conjugated goat anti-chicken was used as the secondary.



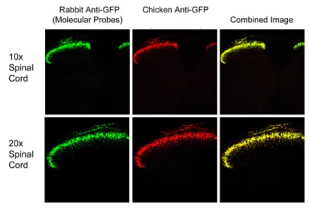
This image is courtesy of a customer review submitted by Christophe Lachaud

Immunocytochemistry/ Immunofluorescence - Anti-GFP antibody (ab13970)

GFP immunofluorescence staining of U-2 OS cells using chicken anti-GFP antibody

ab13970 staining GFP in U-2 OS (Human bone osteosarcoma epithelial cell line) cells by ICC/IF.

Cells were paraformaldehyde fixed permeabilized with 0.5% triton and blocked with 2% antibody dilution buffer for 2 hours. Cells were incubated with the primary antibody (1/1000 dilution) for 1 hour at 25°C. An undiluted Alexa Fluor® 488 conjugated Goat anti-chicken polyclonal was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-GFP antibody (ab13970)

Transgenic mice expressing GFP selectively in lamina II of the spinal cord.

In the right panels, note the correspondance between the green (rabbit anti-GFP) and red signals (chicken anti-GFP from Abcam) indicating that these two antibody preparations recognized the same gene product. The secondary antibody used with ab13970 was an FITC-labeled goat anti-chicken

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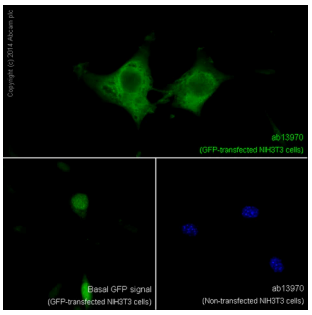

Immunocytochemistry/ Immunofluorescence - Anti-GFP antibody (ab13970)

GFP immunofluorescence staining of 3T3 cells using chicken anti-GFP antibody

ab13970 staining GFP in GFP-transfected NIH/3T3 (Mouse embryo fibroblast cell line) cells.

The cells were fixed with 4% formaldehyde (10 minutes) and then blocked in 1% BSA / 0.3M glycine in 0.1%PBS-Tween for 1 hour. The cells were then incubated with ab13970 at 1/2000 dilution overnight at +4°C followed by incubation with Goat Anti-Chicken IgY H&L (Alexa Fluor® 488) preadsorbed (ab150173) for 1 hour at 1 µg/ml.
Under identical experimental conditions when compared to the basal level of GFP expression in transfected NIH/3T3 cells the cells upon which ab13970 was applied gave a stronger signal in the 488 channel indicating that ab13970 is binding to GFP and therefore eliciting signal amplification.
ab13970 was also applied to non-GFP-transfected NIH/3T3 cells which produced no positive staining indicating specificity for GFP.

Nuclear DNA was labeled with 1.43 µM DAPI (blue).

Western blot - Anti-GFP antibody (ab13970)

Western blot of transgenic mouse spinal cords showing that the rabbit anti-GFP (lane 1) and the chicken anti-GFP (Abcam; lane 2) recognize a band at the same molecular weight.

Lane 1:
Rabbit anti-GFP

Lane 2:
Western blot - Anti-GFP antibody (ab13970)

All lanes:
Transgenic mouse spinal cords

Predicted band size: 27 kDa

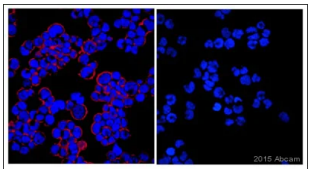

Image courtesy of a customer review submitted by Dr Francois Daubeuf.

Immunocytochemistry/ Immunofluorescence - Anti-GFP antibody (ab13970)

GFP immunofluorescence staining of HEK293 cells using chicken anti-GFP antibody

Immunocytochemical/ Immunoflurescence analysis of cytospined HEK-293 cells (Human epithelial cell line from embryonic kidney) transfected with GFP labeling GFP with ab13970 at 1/200 dilution incubated for 16 hours at 4°C with 1% BSA in PBS. Secondary used was a donkey anti-chicken polyclonal DyLight® 594 at 1/500.

GFP is shown in red (DyLight® 594).

Nuclei are counterstained in blue (DAPI).

The left panel shows HEK-293 cells transfected with GFP and the right panel shows non-transfected HEK-293 cells.

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