abcam

ab52939

Anti-Ras antibody [EP1125Y]

Anti-Ras antibody [EP1125Y] (ab52939) is a rabbit monoclonal antibody detecting Ras in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 70 publications
- Trusted since 2007

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EP1125Y
Purification technique	Affinity purification Protein A
Specificity	This antibody is predicted to react with H-Ras, N-Ras and K-Ras.
Concentration	0.282 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/20
Notes	**For unpurified use at 1/30.**

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/5000
Notes	**For unpurified use at 1/10000- 1/50000.**

Species	Rat
Dilution info	1/5000
Notes	**For unpurified use at 1/10000- 1/50000.**

Species	Human
Dilution info	1/5000
Notes	**For unpurified use at 1/10000- 1/50000.**

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/30
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. For unpurified use at 1/100.

Expected

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

Target data

See full target information HRAS

Function	Involved in the activation of Ras protein signal transduction (PubMed:22821884). Ras proteins bind GDP/GTP and possess intrinsic GTPase activity (PubMed:12740440, PubMed:14500341, PubMed:9020151).

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-Ras antibody [EP1125Y] (ab52939) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Ras?
Anti-Ras [EP1125Y] (ab52939) specifically detects a band for Ras (UniProt: P01111) at a molecular weight of 21kDa.

Trusted by the scientific community
Anti-Ras [EP1125Y] (ab52939) was first used in a scientific publication in 2007 and has been cited over 70 times in peer-reviewed journals.

Reviewed by scientists
Anti-Ras [EP1125Y] (ab52939) has over 10 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EP1125Y] also available for your convenience: ab52939, Carrier free - ab140261, Carrier free - ab271848, Alexa Fluor® 488 - ab308532, APC - ab310872, PE - ab310934, Alexa Fluor® 647 - ab311097, Alexa Fluor® 594 - ab311711, Alexa Fluor® 568 - ab312986

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.

Supplementary info

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

Activity summary

	The Ras protein also known by its alternate names such as KRAS NRAS and HRAS functions as a small GTPase which is a type of enzyme that binds to guanosine triphosphate (GTP) and can switch to an inactive form when it hydrolyzes GTP to GDP. Ras proteins are encoded by genes located in different chromosomes and typically have a molecular weight of about 21 kDa. These proteins are expressed in various tissues throughout the body where they play key roles in cellular signaling.
Biological function summary	Ras proteins are pivotal in regulating cell proliferation differentiation and survival. They are often part of larger protein complexes that facilitate signal transduction across cell membranes. These proteins function as binary molecular switches toggling between active (GTP-bound) and inactive (GDP-bound) states. Mutations in Ras proteins such as NRAS Q61R can lead the protein to assume permanently active conformations disrupting normal cellular signaling processes and contributing to oncogenesis.
Pathways	Ras proteins play significant roles in the MAPK/ERK and PI3K/AKT signaling pathways. Their activation leads to a cascade of phosphorylation events that ultimately regulate gene expression. Within these pathways Ras proteins interact with various molecules including RAF kinases and the PI3K protein further illustrating their complex roles in signal propagation. These pathways control many cellular processes including growth differentiation and survival illustrating how Ras proteins integrate multiple signals to modulate cellular outcomes.
Associated diseases and disorders	Ras proteins are frequently implicated in various cancers notably pancreatic and colorectal cancers. Mutated forms of Ras such as KRAS G12V drive oncogenesis by promoting uncontrolled cell growth and division. In cancer pathology Ras often interacts with tumor suppressor proteins influencing the disease progression. Targeting Ras-mediated signaling pathways using approaches like pan-Ras inhibitors or chemiluminescence ELISAs represents an ongoing area of therapeutic research aimed at combating Ras-driven malignancies.

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

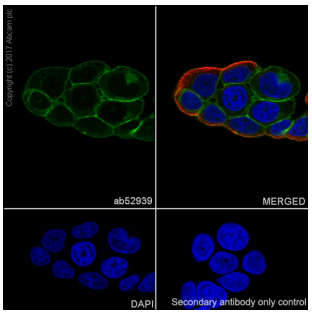
We do not recommend this combination. It is not covered by our product promise.

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.

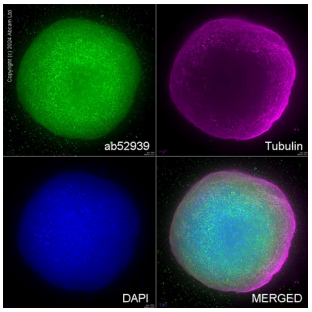
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-Ras antibody [EP1125Y] (ab52939)

Ras Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Ras antibody

Immunocytochemistry analysis of MCF7 (human breast adenocarcinoma cell line) cells labeling Ras with Purified ab52939 at 1:500 dilution. 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) 1:200 (2.5 µg/ml). ab150077 Goat anti rabbit IgG(Alexa Fluor ® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

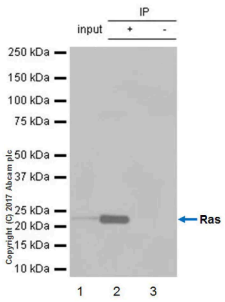


Immunocytochemistry/ Immunofluorescence - Anti-Ras antibody [EP1125Y] (ab52939)

ab52939 staining of GTPase KRas in a HCT 116 cell spheroid. The cells were fixed with 4% paraformaldehyde (10 min), permeabilised with 2% Triton X-100 for 1h and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween overnight at room temperature. The spheroids were then incubated overnight at room temperature with ab52939 at 2 µg/ml and ab7291, Mouse monoclonal [DM1A] to alpha Tubulin at 2 µg/ml. DAPI was used as nuclear counterstain (shown in blue). As secondary antibodies ab150081 Goat anti-Rabbit (Alexa Fluor® 488) (shown in green) and ab150120 Goat anti-Mouse (Alexa Fluor® 594) (shown in magenta) were used, incubated overnight at room temperature. All permeabilization, blocking and antibody incubation steps were performed using a rotary shaker.

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.

Similar results were observed using 100% Methanol (5min).



Immunoprecipitation - Anti-Ras antibody [EP1125Y] (ab52939)

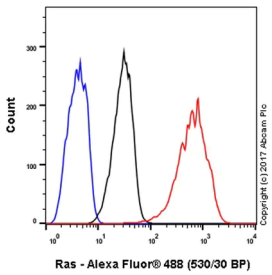
ab52939 (purified) at 1:20 dilution (2µg) immunoprecipitating Ras in Jurkat whole cell lysate.

Lane 1 (input): Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate 10µg
Lane 2 (+): ab52939 & Jurkat whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab52939 in Jurkat whole cell lysate

For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at

1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-Ras antibody [EP1125Y] (ab52939)

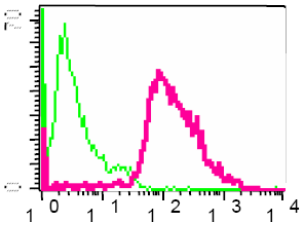
Predicted band size: 21 kDa



Flow Cytometry (Intracellular) - Anti-Ras antibody [EP1125Y] (ab52939)

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

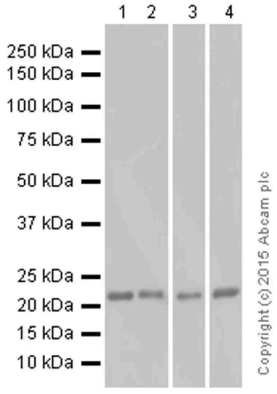
Intracellular Flow Cytometry analysis of PC-12 (rat adrenal gland pheochromocytoma cell line) cells labeling Ras with purified ab52939 at 1/30 dilution (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Flow Cytometry (Intracellular) - Anti-Ras antibody [EP1125Y] (ab52939)

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

Unpurified ab52939 at 1/100 dilution staining Ras in permeabilized PC-12 (rat adrenal gland pheochromocytoma cell line) cells by intracellular flow cytometry (red). Rabbit IgG negative control (green).



Western blot - Anti-Ras antibody [EP1125Y] (ab52939)

Ras Western blot staining using rabbit Anti-Ras antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-Ras antibody [EP1125Y] (ab52939) at 1/5000 dilution

Lane 1:
Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysates at 20 µg

Lane 2:
HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysates at 20 µg

Lane 3:
RAW 264.7 (mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysates at 20 µg

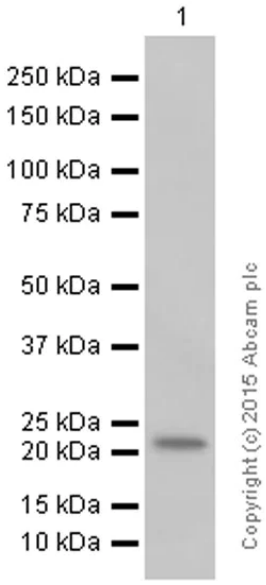
Lane 4:
Neuro-2a (mouse neuroblastoma cell line) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 21 kDa

Observed band size: 21 kDa



Western blot - Anti-Ras antibody [EP1125Y] (ab52939)

Ras Western blot staining of PC-12 (rat adrenal gland pheochromocytoma cell line) whole cell lysates using rabbit Anti-Ras antibody

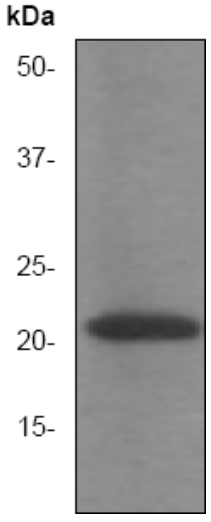
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Ras antibody [EP1125Y] (ab52939) at 1/5000 dilution

All lanes:
PC-12 (rat adrenal gland pheochromocytoma cell line) whole cell lysates at 15 µg

Secondary

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

Predicted band size: 21 kDa



Western blot - Anti-Ras antibody [EP1125Y] (ab52939)

Ras Western blot staining of C6 (rat glial tumor cell line) cell lysate using rabbit Anti-Ras antibody

All lanes:
Western blot - Anti-Ras antibody [EP1125Y] (ab52939) at 1/500000 dilution

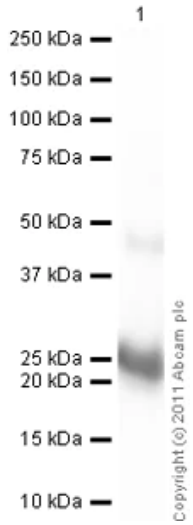
All lanes:
C6 (rat glial tumor cell line) cell lysate at 10 µg/mL

Secondary

All lanes:
goat anti-rabbit HRP at 1/2000 dilution

Predicted band size: 21 kDa

Observed band size: 18 kDa



Western blot - Anti-Ras antibody [EP1125Y] (ab52939)

All lanes:
Western blot - Anti-Ras antibody [EP1125Y] (ab52939) at 1/500 dilution

All lanes:
Human Ras full length protein (ab56526) at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 21 kDa

Exposure time: 1min

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