abcam

ab140261

Anti-Ras antibody [EP1125Y] - Low endotoxin, Azide free

Recombinant RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
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	1.034 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human

Dilution info	-
Notes	-

Expected

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

WB

Tested

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

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

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab140261 is the carrier-free version of ab52939.

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.

What does low endotoxin mean?
Our low endotoxin, azide-free formats have low endotoxin level (1 EU/mg, determined by the TAL assay) and are free from azide, to achieve consistent experimental results in functional assays.

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

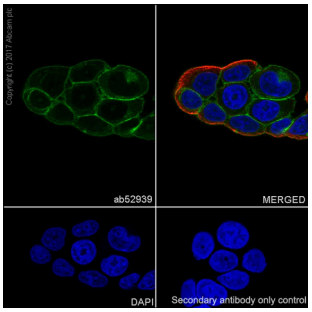
We do not recommend this combination. It is not covered by our product promise.

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.

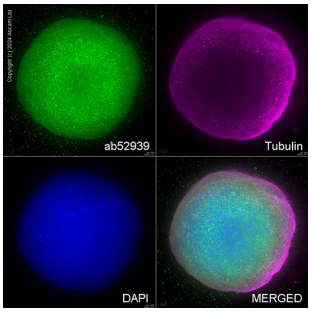
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-Ras antibody [EP1125Y] - Low endotoxin, Azide free (ab140261)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS BSA glycerol and sodium azide (ab52939).

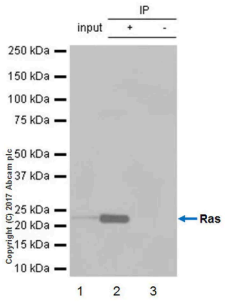


Immunocytochemistry/ Immunofluorescence - Anti-Ras antibody [EP1125Y] - Low endotoxin, Azide free (ab140261)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (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] - Low endotoxin, Azide free (ab140261)

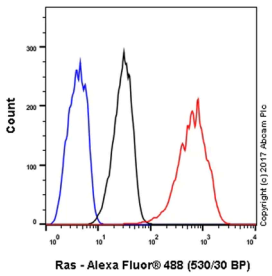
ab52939 (purified) at 1:20 dilution (2µg) immunoprecipitating Ras in Jurkat whole cell lysate.

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52939).

All lanes:
Immunoprecipitation - Anti-Ras antibody [EP1125Y] (ab52939)

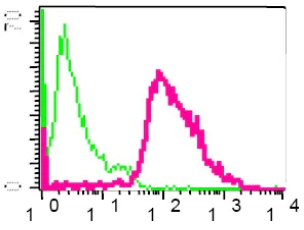
Predicted band size: 21 kDa



Flow Cytometry (Intracellular) - Anti-Ras antibody [EP1125Y] - Low endotoxin, Azide free (ab140261)

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).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52939).



Flow Cytometry (Intracellular) - Anti-Ras antibody [EP1125Y] - Low endotoxin, Azide free (ab140261)

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).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab52939).

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