abcam

ab108602

Anti-Ras antibody [EPR3255]

Anti-Ras antibody [EPR3255] (ab108602) is a rabbit monoclonal antibody detecting Ras in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

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	EPR3255
Purification technique	Affinity purification Protein A
Specificity	ab108602 also detects H-Ras and N-Ras.
Concentration	0.252 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Rat, 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 [EPR3255] (ab108602) 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 Ras?
Anti-Ras [EPR3255] (ab108602) specifically detects a band for Ras (UniProt: P01116) at a molecular weight of 22kDa.

Trusted by the scientific community
Anti-Ras [EPR3255] (ab108602) was first used in a scientific publication in 2011 and has been cited over 20 times in peer-reviewed journals.

Reviewed by scientists
Anti-Ras [EPR3255] (ab108602) has over 5 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EPR3255] also available for your convenience: ab108602, HRP - ab199557, Carrier free - ab209974, Alexa Fluor® 488 - ab308536, Alexa Fluor® 555 - ab308603, APC - ab310809, PE - ab310891, Alexa Fluor® 647 - ab311096, Alexa Fluor® 594 - ab311708, Alexa Fluor® 568 - ab312983, Alexa Fluor® 750 - ab320911

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

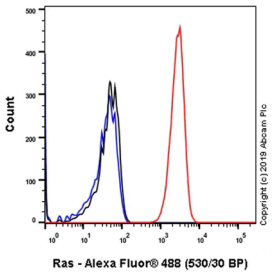
We do not recommend this combination. It is not covered by our product promise.

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.

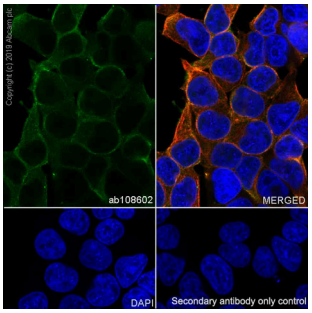
10 product images



Flow Cytometry (Intracellular) - Anti-Ras antibody [EPR3255] (ab108602)

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

Intracellular Flow Cytometry analysis of HEK-293 (Human embryonic kidney epithelial cell) cells labeling Ras with purified ab108602 at 1/30 dilution (10 µg/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).

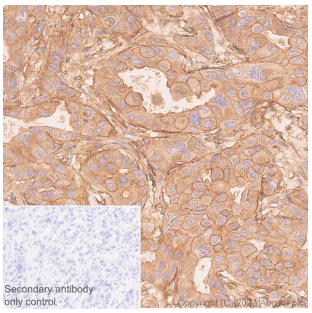


Immunocytochemistry/ Immunofluorescence - Anti-Ras antibody [EPR3255] (ab108602)

Ras Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Ras antibody

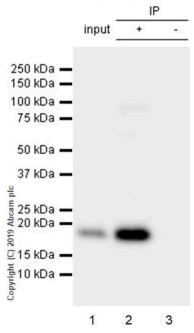
Immunocytochemistry/ Immunofluorescence analysis of 293T (Human embryonic kidney epithelial cell) cells labeling Ras with purified ab108602 at 1:100 dilution (10 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained

with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 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-Ras antibody [EPR3255] (ab108602)

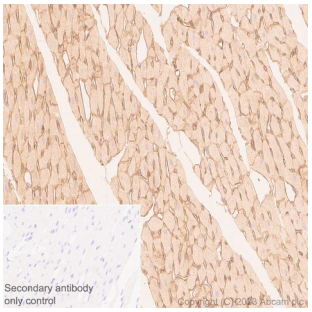
Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue labelling Ras with ab209974 at 1/10000 (0.104 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Positive staining on human breast carcinoma. The section was incubated with ab209974 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins. This data was developed using the same antibody clone in a different buffer formulation (ab209974).



Immunoprecipitation - Anti-Ras antibody [EPR3255] (ab108602)

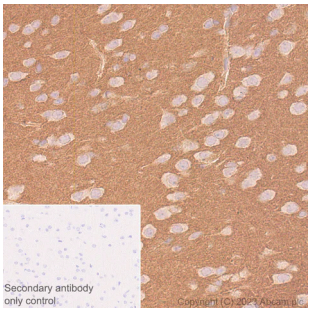
ab108602 (purified) at 1/20 dilution (2 µg) immunoprecipitating Ras in SH-SY5Y whole cell lysate.
Lane 1 (input): SH-SY5Y (Human neuroblastoma epithelial cell) whole cell lysate 10 µg
Lane 2 (+): ab108602 & SH-SY5Y whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab108602 in SH-SY5Y whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-Ras antibody [EPR3255] (ab108602)

Predicted band size: 21 kDa



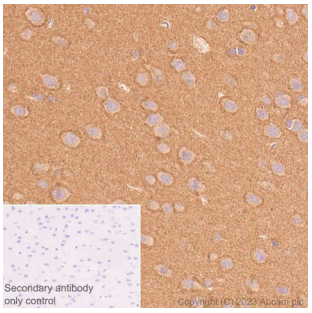
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ras antibody [EPR3255] (ab108602)

Immunohistochemical analysis of paraffin-embedded rat cardiac muscle tissue labelling Ras with ab209974 at 1/10000 (0.104 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Positive staining on rat cardiac muscle. The section was incubated with ab209974 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins. This data was developed using the same antibody clone in a different buffer formulation (ab209974).



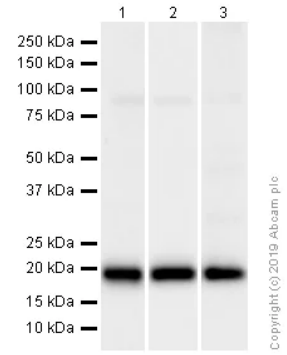
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ras antibody [EPR3255] (ab108602)

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labelling Ras with ab209974 at 1/10000 (0.104 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Positive staining on mouse cerebrum. The section was incubated with ab209974 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins. This data was developed using the same antibody clone in a different buffer formulation (ab209974).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ras antibody [EPR3255] (ab108602)

Immunohistochemical analysis of paraffin-embedded rat cerebrum tissue labelling Ras with ab209974 at 1/10000 (0.104 µg/ml) dilution followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at ready to use dilution. Positive staining on rat cerebrum. The section was incubated with ab209974 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins. This data was developed using the same antibody clone in a different buffer formulation (ab209974).



Western blot - Anti-Ras antibody [EPR3255] (ab108602)

All lanes:
Western blot - Anti-Ras antibody [EPR3255] (ab108602) at 1/10000 dilution

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

Lane 2:
Rat brain lysates at 20 µg

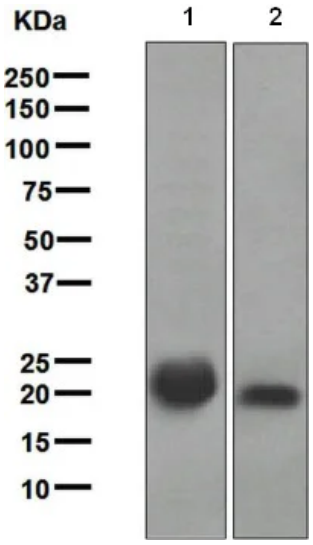
Lane 3:
Mouse heart lysates at 20 µg

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 [EPR3255] (ab108602)

Ras Western blot staining using rabbit Anti-Ras antibody

All lanes:
Western blot - Anti-Ras antibody [EPR3255] (ab108602) at 1/1000 dilution

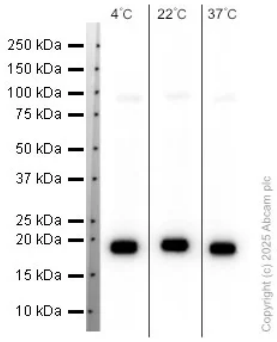
Lane 1:
HEK-293 whole cell lysate at 10 µg

Lane 2:
SH-SY5Y cell lysate at 10 µg

Secondary

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

Predicted band size: 21 kDa



Western blot - Anti-Ras antibody [EPR3255] (ab108602)

Ras Western blot staining of Rat brain lysate using rabbit Anti-Ras antibody

This blot was produced using 4-20% SDS-PAGE containing 15 µg of rat brain lysate per lane at 150V for 1hr before being transferred onto a 0.45 µm PVDF membrane at 75V for 1hr. The membrane was then blocked for 1hr using 5% NFDM/TBST, then incubated with ab108602 (1/10,000) at room temperature for 1hr. After being washed three times in TBST, the membrane was incubated with Peroxidase conjugated goat anti-rabbit IgG (H+L) (ab97051) at 1/20,000 dilution for 1hr at room temperature. The membrane was washed three times again. Then the signal was developed using the ECL technique.

ab108602 was stored at a range of temperatures (+4°C, +22°C, +37°C) for 1 week before being tested in WB. The image shows the band intensity remains relatively constant for temperatures ranging between 4°C, 22°C and 37°C, demonstrating that antibody activity is not affected under these conditions. This data was generated as part of a structured antibody stability study supporting Abcam’ s transition from cold⊠chain to ambient shipping.

All lanes:
Western blot - Anti-Ras antibody [EPR3255] (ab108602) at 1/10000 dilution

All lanes:
Rat brain lysate at 15 µg with NDFM/TBST

Secondary

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

Exposure time: 5s

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