abcam

ab92360

Anti-RanGAP1 antibody [EPR3295]

Recombinant | RabMAb

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	EPR3295
Purification technique	Affinity purification Protein A
Concentration	0.111 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250.**

Species	Rat

Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250.**

Species	Human
Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250.**

IP

Tested

Species	Human
Dilution info	1/20
Notes	**For unpurified use at 1/10**

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/5000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/5000
Notes	-

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. For unpurified use at 1/50

Expected

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

Target data

See full target information RANGAP1

Function	GTPase activator for RAN (PubMed:16428860, PubMed:8146159, PubMed:8896452). Converts cytoplasmic GTP-bound RAN to GDP-bound RAN, which is essential for RAN-mediated nuclear import and export (PubMed:27160050, PubMed:8896452). Mediates dissociation of cargo from nuclear export complexes containing XPO1, RAN and RANBP2 after nuclear export (PubMed:27160050).

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	Stable for 12 months at -20°C

Notes

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.

Supplementary info

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

Activity summary	RanGAP1 also known as Ran GTPase-activating protein 1 plays an important role in regulating nucleocytoplasmic transport. Mechanically it converts RanGTP to RanGDP in the cytoplasm which is essential for the recycling of Ran and maintenance of the Ran gradient across the nuclear envelope. The molecular mass of RanGAP1 is approximately 70 kDa. RanGAP1 is expressed in various cell types with significant presence in the cytoplasm due to its function.
Biological function summary	Many cellular processes rely on the action of RanGAP1 as it forms part of the Ran cycle. This protein is an integral component of the nuclear transport complex which regulates the bidirectional movement of RNA and proteins through the

	nuclear pores. Through its action RanGAP1 indirectly influences nuclear import and export playing an essential part in cell cycle regulation and mitosis.
Pathways	Several key cellular pathways are dependent on RanGAP1 activity. For instance it is a component of the mitotic spindle assembly pathway and also plays a role in the RNA processing pathway. In these pathways RanGAP1 works closely with other proteins such as RanBP1 and RCC1 facilitating important cellular events that require strict regulation of nuclear-cytoplasmic transport.
Associated diseases and disorders	Disruptions in RanGAP1 function have been associated with certain types of cancer and neurodegenerative diseases. Aberrant regulation of RanGAP1 activity can lead to improper cell cycle progression contributing to oncogenesis. Furthermore changes in the expression of RanGAP1 and its interacting proteins like RanBP2 may relate to disorders like Huntington's disease where cellular transport mechanisms are compromised.

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

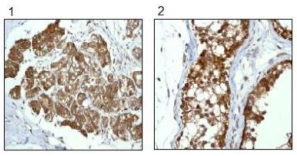
We do not recommend this combination. It is not covered by our product promise.

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.

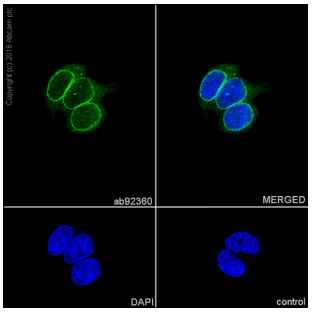
12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RanGAP1 antibody [EPR3295] (ab92360)

b92360 at 1/100 dilution staining RanGAP1 in paraffin-embedded (1) Human breast carcinoma tissue and (2) Human testis tissue by immunohistochemistry.
Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

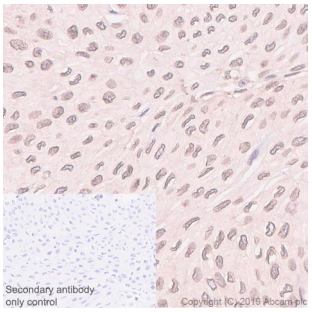
Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-RanGAP1 antibody [EPR3295] (ab92360)

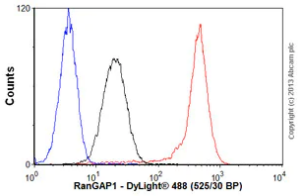
RanGAP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RanGAP1 antibody

Immunofluorescence staining of MCF7 cells with purified ab92360 at a working dilution of 1/500, counter-stained with DAPI. The secondary antibody was an Alexa Fluor® 488 conjugated goat anti-rabbit (ab150077), used at a dilution of 1/1000. The cells were fixed in 4% PFA and permeabilized using 0.1% Triton X 100. The negative control is shown in bottom right hand panel - for the negative control, PBS was used instead of the primary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RanGAP1 antibody [EPR3295] (ab92360)

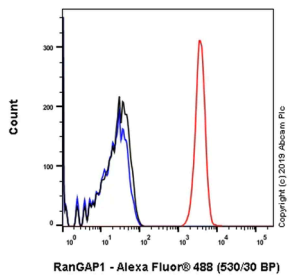
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human bladder carcinoma tissue sections labeling RanGAP1 with purified ab92360 at 1/500 dilution (0.22 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Flow Cytometry (Intracellular) - Anti-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Flow Cytometry (Intracellular) staining using rabbit Anti-RanGAP1 antibody

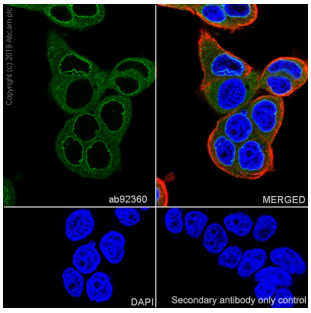
Overlay histogram showing Jurkat cells stained with ab92360 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab92360, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line). Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in Jurkat cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Flow Cytometry (Intracellular) - Anti-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Flow Cytometry (Intracellular) staining using rabbit Anti-RanGAP1 antibody

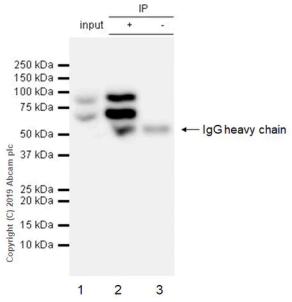
Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling RanGAP1 with purified ab92360 at 1/20 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488, ab150077) secondary 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-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RanGAP1 antibody

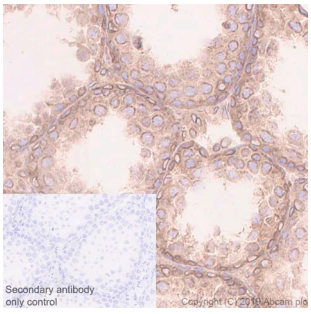
Immunocytochemistry/ Immunofluorescence analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling RanGAP1 with purified ab92360 at 1/100 dilution (1.1 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1/200 (2.5 µg/ml) dilution. 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.



Immunoprecipitation - Anti-RanGAP1 antibody [EPR3295] (ab92360)

ab92360 (purified) at 1/20 dilution (0.5ug) immunoprecipitating RanGAP1 in HeLa whole cell lysates.
Lane 1: HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates 10ug
Lane 2 (+): ab92360 & HeLa whole cell lysates
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab92360 in HeLa whole cell lysates
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-RanGAP1 antibody [EPR3295] (ab92360)

Predicted band size: 63 kDa

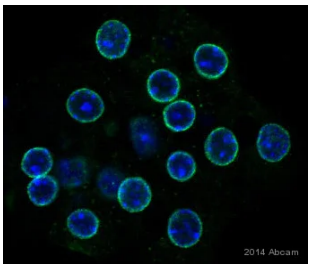


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RanGAP1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse testis tissue sections labeling RanGAP1 with purified ab92360 at 1/500 dilution (0.22 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one

step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

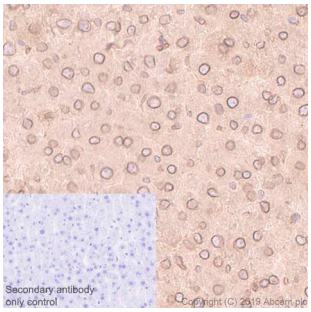


This image is courtesy of an anonymous customer review.

Immunocytochemistry/ Immunofluorescence - Anti-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RanGAP1 antibody

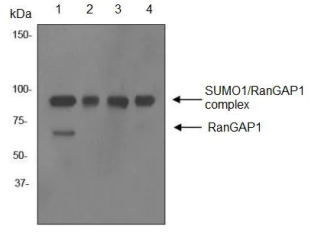
ab92360 staining RanGAP1 in mouse hepatocyte cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized, and blocked with 2% BSA for 2 hours at 22°C. Samples were incubated with primary antibody (1/100 in blocking buffer) for 18 hours at 4°C. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG polyclonal (1/10000) was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RanGAP1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling RanGAP1 with purified ab92360 at 1/500 dilution (0.22 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-RanGAP1 antibody [EPR3295] (ab92360)

All lanes:
Western blot - Anti-RanGAP1 antibody [EPR3295] (ab92360) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
MCF-7 cell lysate at 10 µg

Lane 3:
SH-SY5Y cell lysate at 10 µg

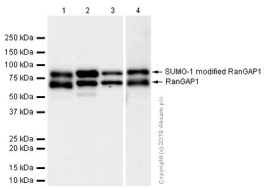
Lane 4:
A549 cell lysate at 10 µg

Secondary

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

Predicted band size: 63 kDa

Observed band size: 64 kDa, 90 kDa



Western blot - Anti-RanGAP1 antibody [EPR3295] (ab92360)

RanGAP1 Western blot staining using rabbit Anti-RanGAP1 antibody

The doublets detected are consistent with what have been described in literature PMID: 24988324 and PMID: 21646468
All lanes:
Western blot - Anti-RanGAP1 antibody [EPR3295] (ab92360) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
SH-SY5Y (Human neuroblastoma epithelial cell) whole cell lysates at 20 µg

Lane 3:
Mouse brain lysates at 20 µg

Lane 4:
Rat brain lysates at 20 µg

Secondary

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

Predicted band size: 63 kDa

Observed band size: 70 kDa, 90 kDa

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