abcam

ab315458

Anti-RanBP2 antibody [EPR28204-184]

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	EPR28204-184
Purification technique	Affinity purification Protein A
Concentration	0.518 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information RANBP2

Function	E3 SUMO-protein ligase which facilitates SUMO1 and SUMO2 conjugation by UBE2I (PubMed:11792325, PubMed:12032081, PubMed:15378033, PubMed:15931224, PubMed:22194619). Involved in transport factor (Ran-GTP, karyopherin)-mediated protein import via the F-G repeat-containing domain which acts as a docking site for substrates (PubMed:7775481). Binds single-stranded RNA (in vitro) (PubMed:7775481). May bind DNA (PubMed:7775481). Component of the nuclear export pathway (PubMed:10078529). Specific docking site for the nuclear export factor exportin-1 (PubMed:10078529). Inhibits EIF4E-dependent mRNA export (PubMed:22902403). Sumoylates PML at 'Lys-490' which is essential for the proper assembly of PML-NB (PubMed:22155184). Recruits BICD2 to the nuclear envelope and cytoplasmic stacks of nuclear pore complex known as annulate lamellae

during G2 phase of cell cycle (PubMed:20386726). Probable inactive PPIase with no peptidyl-prolyl cis-trans isomerase activity (PubMed:20676357, PubMed:23353830).

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

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	RanBP2 also known as Nucleoporin 358 (Nup358) is a large protein with a molecular mass of approximately 358 kDa. It is an important component of the nuclear pore complex (NPC) and is found on the cytoplasmic side of the nuclear envelope. RanBP2 is expressed in a variety of tissues with higher levels in the brain and testis. Its alternates names include Nup358 due to its role as a nucleoporin. Mechanically RanBP2 facilitates nucleocytoplasmic transport by interacting with the small GTPase Ran.

Biological function summary	RanBP2 plays a significant role in multiple processes such as mitotic spindle assembly and chromatin condensation. It functions as part of the Ran GTPase system a critical complex for nucleocytoplasmic transport. In addition RanBP2 contributes to protein sumoylation where it acts as a scaffold for conjugating enzymes. It maintains nuclear envelope integrity and supports the positioning of centrosomes during cell division.
Pathways	RanBP2 is actively involved in the nucleocytoplasmic transport pathway ensuring the proper exchange of proteins and RNA between the nucleus and cytoplasm. It is critical to the Ran cycle where it works alongside proteins like RanGTP and RanGAP1 to regulate transport activities. The involvement of RanBP2 in the SUMOylation pathway also emphasizes its role in post-translational modification impacting various cellular events and signaling.
Associated diseases and disorders	Changes in RanBP2 expression have been linked to neurodegenerative diseases and certain types of cancer. In neurodegenerative conditions such as hereditary spastic paraplegia RanBP2 forms a complex with proteins like atlastin-1 which further influences disease progression. In cancer RanBP2 interacts with oncogenic pathways through its role in cell cycle regulation highlighting its potential as a therapeutic target.

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

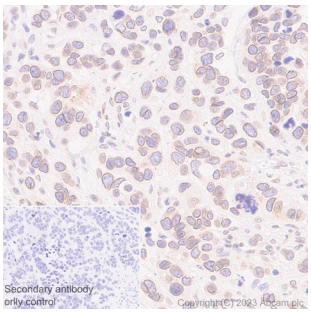
We do not recommend this combination. It is not covered by our product promise.

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.

8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RanBP2 antibody [EPR28204-184] (ab315458)

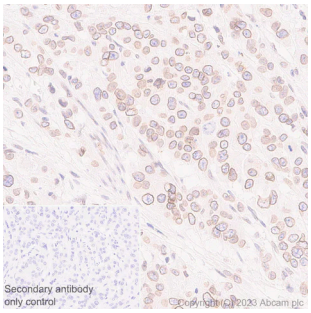
Immunohistochemical analysis of paraffin-embedded Human gastric carcinoma tissue labeling RanBP2 with ab315458 at 1/500 (1.036 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human gastric carcinoma. The section was incubated with ab315458 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 a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



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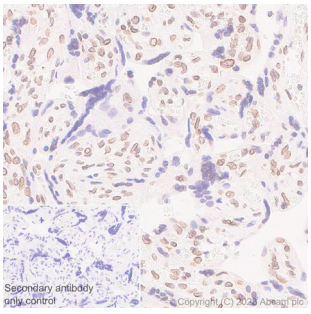
Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling RanBP2 with ab315458 at 1/500 (1.036 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human breast carcinoma. The section was incubated with ab315458 for 30 mins at room temperature.
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Counterstained with Hematoxylin.

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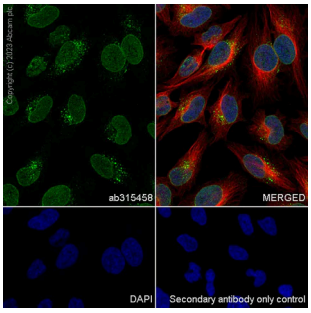
Immunohistochemical analysis of paraffin-embedded Human placenta tissue labeling RanBP2 with ab315458 at 1/500 (1.036 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human placenta. The section was incubated with ab315458 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 a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



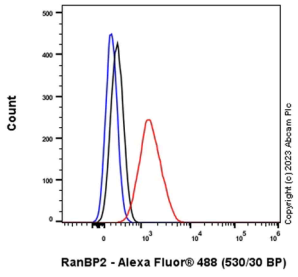
Immunocytochemistry/ Immunofluorescence - Anti-RanBP2 antibody [EPR28204-184] (ab315458)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling RanBP2 with ab315458 at 1/50 (10.36 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing nuclear envelop and nuclear staining with puncta signal in HeLa cell line. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

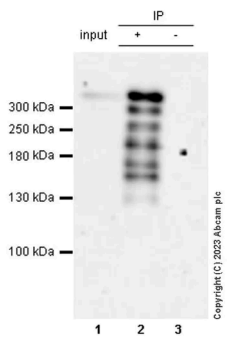
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Flow Cytometry (Intracellular) - Anti-RanBP2 antibody [EPR28204-184] (ab315458)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling RanBP2 with ab315458 at 1/50 dilution (1 ug)/Red compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-RanBP2 antibody [EPR28204-184] (ab315458)

RanBP2 was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate with ab315458 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab315458 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

All lanes:
Immunoprecipitation - Anti-RanBP2 antibody [EPR28204-184] (ab315458) at 1/1000 dilution

Lanes 1 - 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate

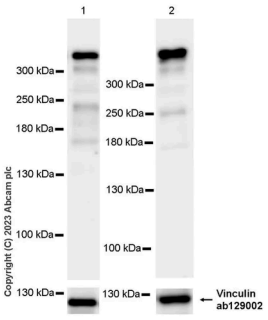
Lane 2:
ab315458 IP at 1/30 in HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab315458 in HeLa whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 50s



Western blot - Anti-RanBP2 antibody [EPR28204-184] (ab315458)

RanBP2 Western blot staining using rabbit Anti-RanBP2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The lower MW bands between approximately 250 kDa and 130 kDa are expected to be degradation products of the target.

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

Exposure time: Lane 1: 26 seconds, lane 2: 15 seconds.

All lanes:
Western blot - Anti-RanBP2 antibody [EPR28204-184] (ab315458) at 1/1000 dilution

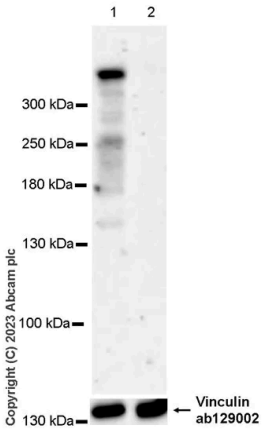
Lane 1:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 2:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Secondary

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

Observed band size: 358 kDa, 124 kDa



Western blot - Anti-RanBP2 antibody [EPR28204-184] (ab315458)

RanBP2 Western blot staining using rabbit Anti-RanBP2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The lower MW bands between approximately 250 kDa and 130 kDa are expected to be degradation products of the target.

Lysates were freshly made and used for Western blotting immediately to minimize protein degradation.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

All lanes:
Western blot - Anti-RanBP2 antibody [EPR28204-184] (ab315458) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
HeLa transfected with siRNA specifically targeting RanBP2 whole cell lysate at 20 µg

Secondary

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

Developed using the ECL technique.

Observed band size: 358 kDa, 124 kDa

Exposure time: 180s

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