abcam

ab17034

Anti-RanBP1 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human RANBP1 aa 150-250. The exact immunogen used to generate this antibody is proprietary information. Database link P43487
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	0.05-0.1 µg/mL
Notes	A 1 hour primary incubation is recommended for this product.

IHC-P

Tested

Species	Human
Dilution info	3-5 µg/mL
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Target data

See full target information RANBP1

Function

Plays a role in RAN-dependent nucleocytoplasmic transport. Alleviates the TNPO1-dependent inhibition of RAN GTPase activity and mediates the dissociation of RAN from proteins involved in transport into the nucleus (By similarity). Induces a conformation change in the complex formed by XPO1 and RAN that triggers the release of the nuclear export signal of cargo proteins (PubMed:20485264). Promotes the disassembly of the complex formed by RAN and importin beta. Promotes dissociation of RAN from a complex with KPNA2 and CSE1L (By similarity). Required for normal mitotic spindle assembly and normal progress through mitosis via its effect on RAN (PubMed:17671426). Does not increase the RAN GTPase activity by itself, but increases GTP hydrolysis mediated by RANGAP1 (PubMed:7882974). Inhibits RCC1-dependent exchange of RAN-bound GDP by GTP (PubMed:7616957, PubMed:7882974).

Storage

Shipped at conditions Blue Ice

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

Supplementary info

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

Activity summary	RanBP1 also known as Ran-binding protein 1 is an important player in the regulation of the Ran GTPase cycle integral to transport processes across the nuclear envelope. This protein has a mass of about 23 kDa. In humans RanBP1 shows expression in various tissues with higher levels observed in testis and brain. It directly interacts with Ran a small GTPase helping to modulate its activity by promoting the conversion between the active GTP-bound form and the inactive GDP-bound form.
Biological function summary	RanBP1 functions closely with Ran GTPase in the nucleocytoplasmic transport system where it is part of a complex with Ran and other factors like importins and exportins. It aids in the stabilization of the Ran-GTPase complex facilitating the release of cargo molecules and ensuring efficient transport cycles within the cells. RanBP1 in conjunction with Ran regulates the dynamic transport of proteins and RNA essential for maintaining cellular compartmentalization.
Pathways	The RanBP1 protein plays a role in the Ran GTPase cycle and nucleocytoplasmic transport pathways. These pathways are essential to cellular dynamics affecting overall transport between the cytoplasm and the nucleus. Furthermore RanBP1 affects interactions with proteins such as RanGAP1 contributing to the regulation of Ran activity cycles and supporting cellular functions including mitosis and RNA processing.
Associated diseases and disorders	Research indicates that alterations in RanBP1 expression and function relate to cancer progression and neurodegenerative conditions. Misregulation of RanBP1 can affect nuclear transport balance impacting cancer-promoting pathways. Its interaction with Ran and its pathway-related proteins like importin beta suggests a role in tumorigenesis by contributing to aberrant cell cycle regulation and mitotic errors while its importance in neuron function suggests involvement in neurodegenerative disease mechanisms.

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.

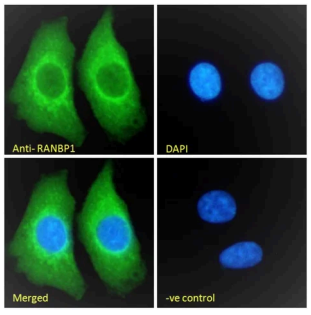
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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Terms & Conditions.

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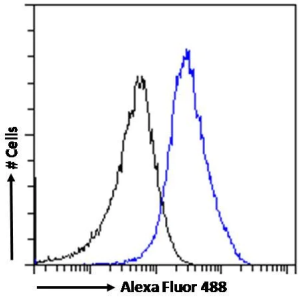
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-RanBP1 antibody (ab17034)

RanBP1 Immunocytochemistry/ Immunofluorescence staining using goat Anti-RanBP1 antibody

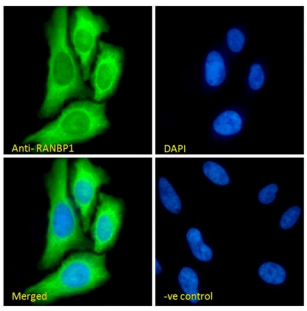
Immunofluorescence analysis of paraformaldehyde fixed HEK-293 (Human epithelial cell line from embryonic kidney) cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10 µg/ml) followed by Alexa Fluor 488® secondary antibody (2 µg/ml), showing cytoplasmic staining. The nuclear stain is DAPI (blue).
Negative control: Non-immunized goat IgG (10 µg/ml) followed by Alexa Fluor 488® secondary antibody (2 µg/ml).



Flow Cytometry - Anti-RanBP1 antibody (ab17034)

RanBP1 Flow Cytometry staining using goat Anti-RanBP1 antibody

Flow cytometric analysis of paraformaldehyde fixed HepG2 cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10µg/mL) followed by Alexa Fluor 488 secondary antibody (1µg/mL). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-RanBP1 antibody (ab17034)

RanBP1 Immunocytochemistry/ Immunofluorescence staining using goat Anti-RanBP1 antibody

Immunofluorescence analysis of paraformaldehyde fixed HeLa (Human epithelial cell line from cervix adenocarcinoma) cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10 µg/ml) followed by Alexa Fluor 488® secondary antibody (2 µg/ml), showing cytoplasmic staining. The nuclear stain is DAPI (blue).
Negative control: Non-immunized goat IgG (10 µg/ml) followed by Alexa Fluor 488® secondary antibody (2 µg/ml).

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