abcam

ab247321

Anti-Importin 9/RANBP9 antibody [EP1353Y] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1353Y
Purification technique	Affinity purification Protein A

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information IPO9

Function	Nuclear transport receptor that mediates nuclear import of proteins, such as histones, proteasome and actin (PubMed:11823430, PubMed:30855230, PubMed:34711951). Serves as receptor for nuclear localization signals (NLS) in cargo substrates (PubMed:11823430). Is thought to mediate docking of the importin/substrate complex to the nuclear pore complex (NPC) through binding to nucleoporin and the complex is subsequently translocated through the pore by an energy requiring, Ran-dependent mechanism (PubMed:11823430). At the nucleoplasmic side of the NPC, Ran binds to the importin, the importin/substrate complex dissociates and importin is re-exported from the nucleus to the cytoplasm where GTP hydrolysis releases Ran (PubMed:11823430). The directionality of nuclear import is thought to be conferred by an asymmetric distribution of the GTP- and GDP-bound forms of Ran between the cytoplasm and nucleus (PubMed:11823430). Mediates the import of pre-assembled proteasomes into the nucleus; AKIRIN2 acts as a molecular bridge between IPO9 and the proteasome complex (PubMed:11823430, PubMed:34711951). Mediates the nuclear import of histones H2A, H2B, H4 and H4 (PubMed:11823430, PubMed:30855230). In addition to nuclear import, also acts as a chaperone for histones by preventing inappropriate non-nucleosomal interactions (PubMed:30855230). Mediates the nuclear import of actin (By similarity).

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

ab247321 is the carrier-free version of ab52605.

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.

Species reactivity

Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.

Please contact us for more information.

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.

Supplementary info

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

Activity summary	Importin 9 also known as RANBP9 or IPO9 is a nuclear transport receptor with a molecular mass of approximately 107 kDa. This protein facilitates the transport of molecules into the nucleus a process essential for cellular function. Importin 9 is expressed in various tissues and plays a significant role in shuttling proteins and some RNA species across the nuclear envelope. As a member of the importin family it interacts with nuclear localization signals on target proteins steering them through nuclear pore complexes.
Biological function summary	Importin 9 participates in intracellular transport by binding cargo proteins in the cytoplasm and transporting them into the nucleus. It operates as part of the larger nuclear transport complex which relies on the Ran GTPase system for direction and timing. Importin 9's role is pivotal in regulating gene expression and cell cycle activities as transported molecules often influence transcriptional activity within the nucleus. This regulation assists in maintaining normal cellular functions and adaptations to stress signals.
Pathways	Importin 9 is integral to the nucleocytoplasmic transport pathway essential for several cellular processes including the regulation of signal transduction and chromatin remodeling. Ran GTPase facilitates the release of cargo once Importin 9 reaches the nucleus while the protein Importin β plays a cooperative role in many pathways. Together they ensure the correct localization of proteins necessary for DNA replication and repair highlighting Importin 9's role in DNA-related processes.
Associated diseases and disorders	Dysfunction of Importin 9 links to neurological conditions and cancer. Abnormal regulation of nuclear transport may contribute to the pathogenesis of neurodegenerative diseases where Importin 9 collaborates with Tau protein in neuronal cells. In oncology altered Importin 9 activity has connections to tumorigenesis often involving the c-Myc protein where misregulated nuclear transport leads to uncontrolled cell proliferation and cancer progression.

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.

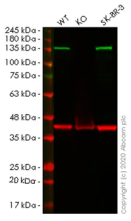
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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1 product image



Western blot - Anti-Importin 9/RANBP9 antibody [EP1353Y] - BSA and Azide free (ab247321)

Importin 9/RANBP9 Western blot staining using rabbit Anti-Importin 9/RANBP9 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab52605).
Lanes 1-3: Merged signal (red and green). Green - ab52605. Red - loading control, ab8245 observed at 36 kDa.

ab52605 was shown to react with IPO9 in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab265352 (knockout cell lysate ab257483) was used. Wild-type and IPO9 knockout samples were subjected to SDS-PAGE. ab52605 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Importin 9/RANBP9 antibody [EP1353Y] (ab52605) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
IPO9 knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human IPO9 (Importin 9/RANBP9) knockout HeLa cell line (ab265352)

Lane 3:
SK-BR-3 cell lysate at 20 µg

Predicted band size: 116 kDa

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