abcam

ab170495

Anti-KPNA2 antibody [EPR11716(B)]

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	EPR11716(B)
Purification technique	Affinity purification Protein A
Concentration	0.145 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Rat, Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Species	Rat
Dilution info	1/10000 - 1/50000
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Rat, Human, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information KPNA2

Function Functions in nuclear protein import as an adapter protein for nuclear receptor KPNB1 (PubMed:28991411, PubMed:32130408, PubMed:7604027, PubMed:7754385). Binds specifically and directly to substrates containing either a simple or bipartite NLS motif (PubMed:28991411, PubMed:32130408, PubMed:7604027, PubMed:7754385). Docking of the importin/substrate complex to the nuclear pore complex (NPC) is mediated by KPNB1 through binding to nucleoporin FxFG repeats and the complex is subsequently translocated through the pore by an energy requiring, Ran-dependent mechanism (PubMed:7604027, PubMed:7754385). At the nucleoplasmic side of the NPC, Ran binds to importin-beta and the three components separate and importin-alpha and -beta are re-exported from the nucleus to the cytoplasm where GTP hydrolysis releases Ran from importin. 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. Mediator of PR-DUB complex component BAP1 nuclear import; acts redundantly with KPNA1 and Transportin-1/TNPO1 (PubMed:35446349).

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	KPNA2 also known as Importin subunit alpha-1 functions as a facilitator for nuclear protein import. It has a mass of about 58 kDa and resides mainly in the cytoplasm and nucleus. This protein binds with specific nuclear localization signals on cargo proteins and assists in their transport into the nucleus through the nuclear pore complex. KPNA2 expression levels vary between tissues but it often appears in higher amounts in proliferative tissues.
Biological function summary	KPNA2 plays an important role in cellular processes by forming a complex with importin beta aiding nuclear-cytoplasmic transport. This transport system is important for regulating gene expression and maintaining cellular homeostasis. KPNA2 influences the correct localization of many signaling and transcription factors impacting numerous cellular functions including cell cycle progression and DNA repair.
Pathways	KPNA2 is a critical player in the nuclear import pathway and intersects with the cell cycle regulation pathway. It is closely associated with proteins such as importin beta which together facilitate the translocation of proteins into the nucleus.

	KPNA2's function in importing various regulators ensures proper cell cycle progression and responds to cellular stress signals.
Associated diseases and disorders	KPNA2 is linked to several cancers particularly breast and ovarian cancer. Its overexpression often correlates with poor prognosis in these cancers suggesting a role in tumor progression. KPNA2 interacts with oncogenic proteins like MYC and AURKA in these pathological states influencing tumor growth and survival 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

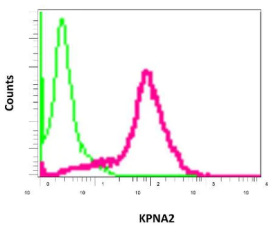
We do not recommend this combination. It is not covered by our product promise.

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.

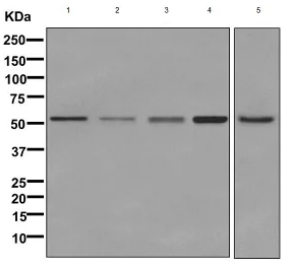
2 product images



Flow Cytometry (Intracellular) - Anti-KPNA2 antibody [EPR11716(B)] (ab170495)

KPNA2 Flow Cytometry (Intracellular) staining using rabbit Anti-KPNA2 antibody

Intracellular flow cytometric analysis of permeabilized 293T cells labeling KPNA2 with ab170495 at 1/10 dilution (red) or a rabbit IgG negative control (green).



Western blot - Anti-KPNA2 antibody [EPR11716(B)] (ab170495)

All lanes:
Western blot - Anti-KPNA2 antibody [EPR11716(B)] (ab170495) at 1/10000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

Lane 3:
Jurkat cell lysate at 10 µg

Lane 4:
293T cell lysate at 10 µg

Lane 5:
C6 cell lysate at 10 µg

Predicted band size: 57 kDa

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