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Importin alpha-3 (KPNA4)Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1968a

Product Information

Application	WB, E
Primary Accession	O00629
Other Accession	O35343
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB9325
Calculated MW	57887
Antigen Region	1-30

Additional Information

Gene ID	3840
Other Names	Importin subunit alpha-3, Importin alpha Q1, Qip1, Karyopherin subunit alpha-4, KPNA4, QIP1
Target/Specificity	This Importin alpha-3 (KPNA4) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the C-terminal region of human Importin alpha-3 (KPNA4).
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Importin alpha-3 (KPNA4)Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KPNA4 {ECO:0000303|PubMed:38512451, ECO:0000312|HGNC:HGNC:6397}
Function	Functions in nuclear protein import as an adapter protein for nuclear receptor KPNB1 (PubMed:10567565, PubMed:20818336, PubMed:28760339,

PubMed:29042532, PubMed:38512451). Binds specifically and directly to substrates containing either a simple or bipartite NLS motif (PubMed:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). 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:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). 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 (PubMed:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). 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:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). Mediates nuclear import of AARS1, MRTFA and RANBP3 (PubMed:10567565, PubMed:20818336, PubMed:28760339, PubMed:38512451).

Cellular Location

Cytoplasm. Nucleus

Tissue Location

Highly expressed in testis, ovary, small intestine, heart, skeletal muscle, lung and pancreas, but barely detectable in kidney, thymus, colon and peripheral blood leukocytes

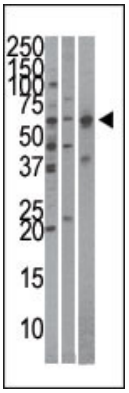
Background

The nuclear import of karyophilic proteins is directed by short amino acid sequences termed nuclear localization signals (NLSs). Karyopherins, or importins, are cytoplasmic proteins that recognize NLSs and dock NLS-containing proteins to the nuclear pore complex. The protein encoded by this gene shares the sequence similarity with Xenopus importin-alpha and Saccharomyces cerevisiae Srp1. This protein is found to interact with the NLSs of DNA helicase Q1 and SV40 T antigen.

References

Dvorin, J.D., et al., J. Virol. 76(23):12087-12096 (2002).
Limon, A., et al., J. Virol. 76(21):10598-10607 (2002).
Hariton-Gazal, E., et al., Biochim. Biophys. Acta 1594(2):234-242 (2002).
Depienne, C., et al., J. Biol. Chem. 276(21):18102-18107 (2001).
Bouyac-Bertoia, M., et al., Mol. Cell 7(5):1025-1035 (2001).

Images



The anti-Importin alpha-4 Pab (Cat. #AP1968a) is used in Western blot to detect Importin alpha-4 in Hela (left), mouse brain (middle), and HepG2 (right)cell line/tissue lysates.

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