

KPNA1 Rabbit pAb

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Product Information

Application IHC-P, IHC-F, IF, E

Primary Accession P52294

Reactivity Rat, Pig, Mouse, Rabbit, Chicken, Dog, Horse

Host Rabbit
Clonality Polyclonal
Calculated MW 60222
Physical State Liquid

Immunogen KLH conjugated synthetic peptide derived from human SRP1-beta

Epitope Specificity 81-180/538

Purity affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Cytoplasm. Nucleus.

SIMILARITY Belongs to the importin alpha family. Contains 10 ARM repeats. Contains 1

IBB domain.

SUBUNIT Heterodimer; with KPNB1. Interacts with ANP32E. Interacts with ZIC3 (By

similarity). Interacts with the nucleoprotein of influenza A viruses. Binds to HCMV (human cytomegalovirus) UL84, HIV-1 Vpr and to ebolavirus VP24. Interacts with APEX1 and RAG1. Interacts with CTNNBL1 (via its N-terminal).

Interacts with AICDA (via its NLS).

Post-translational Polyubiquitinated in the presence of RAG1 (in vitro). **modifications**

Important Note This product as supplied is intended for research use only, not for use in

human, therapeutic or diagnostic applications.

Background Descriptions The transport of molecules between the nucleus and the cytoplasm in

eukaryotic cells is mediated by the nuclear pore complex (NPC), which consists of 60-100 proteins. Small molecules (up to 70 kD) can pass through the nuclear pore by nonselective diffusion while larger molecules are

transported by an active process. The protein encoded by this gene belongs to the importin alpha family, and is involved in nuclear protein import. This protein interacts with the recombination activating gene 1 (RAG1) protein and is a putative substrate of the RAG1 ubiquitin ligase. Alternative splicing results

in multiple transcript variants. [provided by RefSeq, Nov 2012].

Additional Information

Gene ID 3836

Other Names Importin subunit alpha-5, Karyopherin subunit alpha-1, Nucleoprotein

interactor 1, NPI-1, RAG cohort protein 2, SRP1-beta, Importin subunit

alpha-5, N-terminally processed, KPNA1, RCH2

Target/Specificity Expressed ubiquitously.

Dilution IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:500

0-10000

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name KPNA1

Synonyms RCH2

Function Functions in nuclear protein import as an adapter protein for nuclear

receptor KPNB1 (PubMed:27713473, PubMed:7892216, PubMed:8692858). Binds specifically and directly to substrates containing either a simple or bipartite NLS motif (PubMed:27713473, PubMed:7892216, PubMed:8692858). 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:<u>27713473</u>, PubMed:<u>7892216</u>). 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:<u>7892216</u>). 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:<u>7892216</u>). Mediator of PR-DUB complex component BAP1 nuclear import; acts redundantly with

KPNA2 and Transportin-1/TNPO1 (PubMed:<u>35446349</u>).

Cellular Location Cytoplasm. Nucleus

Tissue Location Expressed ubiquitously.

Background

The transport of molecules between the nucleus and the cytoplasm in eukaryotic cells is mediated by the nuclear pore complex (NPC), which consists of 60-100 proteins. Small molecules (up to 70 kD) can pass through the nuclear pore by nonselective diffusion while larger molecules are transported by an active process. The protein encoded by this gene belongs to the importin alpha family, and is involved in nuclear protein import. This protein interacts with the recombination activating gene 1 (RAG1) protein and is a putative substrate of the RAG1 ubiquitin ligase. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Nov 2012].

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