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KPNA2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2862a

Specification

KPNA2 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P52292

KPNA2 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 3838

Other Names
Importin subunit alpha-1, Karyopherin subunit alpha-2, RAG cohort protein 1, SRP1-alpha, KPNA2, RCH1, SRP1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2862a was selected from the N-term region of human KPNA2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

KPNA2 Antibody (N-term) Blocking Peptide - Protein Information

Name KPNA2 (HGNC:6395)

Synonyms RCH1, SRP1

Function
Functions in nuclear protein import as an adapter protein for nuclear receptor KPNB1. Binds specifically and directly to substrates containing either a simple or bipartite NLS motif. 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. 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.

Cellular Location
Cytoplasm. Nucleus

Tissue Location
Expressed ubiquitously.

KPNA2 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

KPNA2 Antibody (N-term) Blocking Peptide - Images

KPNA2 Antibody (N-term) Blocking Peptide - Background

The import of proteins into the nucleus is a process that involves at least 2 steps. The first is an energy-independent docking of the protein to the nuclear envelope and the second is an energy-dependent translocation through the nuclear pore complex. Imported proteins require a nuclear localization sequence (NLS) which generally consists of a short region of basic amino acids or 2 such regions spaced about 10 amino acids apart. Proteins involved in the first step of nuclear import have been identified in different systems. These include the Xenopus protein importin and its yeast homolog, SRP1 (a suppressor of certain temperature-sensitive mutations of RNA polymerase I in Saccharomyces cerevisiae), which bind to the NLS. KPNA2 protein interacts with the NLSs of DNA helicase Q1 and SV40 T antigen and may be involved in the nuclear transport of proteins.

KPNA2 Antibody (N-term) Blocking Peptide - References

Weis K., Mattaj I.W., Lamond A.I.Science 268:1049-1053(1995)Doerr S., Schlicker M., Hansmann I.Hum. Genet. 109:479-486(2001)Weis K., Ryder U., Lamond A.I.EMBO J. 15:1818-1825(1996)