

Product datasheet

Human KPNA4 peptide ab23144

1 References

Description

Product name	Human KPNA4 peptide
Purity	> 70 % HPLC.
Animal free	No
Nature	Synthetic
Species	Human
Sequence	C-NSSANVPTEGFQF
Amino acids	509 to 521

Specifications

Our [Abpromise guarantee](#) covers the use of **ab23144** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Form	Lyophilized
Additional notes	Immunizing peptide for ab6039 . Not tested in blocking applications.

Preparation and Storage

Stability and Storage	Shipped at room temperature. Store at -20°C. Constituent: 100% Deionized Water (H2O) Lyophilized from
Reconstitution	Reconstitute pellet in distilled water where required. For Blocking studies, reconstitute pellet in 200µl distilled water to obtain a 0.5mg/ml peptide solution.

General Info

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
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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. In vitro, mediates the nuclear import of human cytomegalovirus UL84 by recognizing a non-classical NLS. In vitro, mediates the nuclear import of human cytomegalovirus UL84 by recognizing a non-classical NLS.

Tissue specificity

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

Sequence similarities

Belongs to the importin alpha family.

Contains 10 ARM repeats.

Contains 1 IBB domain.

Domain

Consists of an N-terminal hydrophilic region, a hydrophobic central region composed of 10 repeats, and a short hydrophilic C-terminus. The N-terminal hydrophilic region contains the importin beta binding domain (IBB domain), which is sufficient for binding importin beta and essential for nuclear protein import.

The IBB domain is thought to act as an intrasteric autoregulatory sequence by interacting with the internal autoinhibitory NLS. Binding of KPMB1 probably overlaps the internal NLS and contributes to a high affinity for cytoplasmic NLS-containing cargo substrates. After dissociation of the importin/substrate complex in the nucleus the internal autoinhibitory NLS contributes to a low affinity for nuclear NLS-containing proteins.

The major and minor NLS binding sites are mainly involved in recognition of simple or bipartite NLS motifs. Structurally located within in a helical surface groove they contain several conserved Trp and Asn residues of the corresponding third helices (H3) of ARM repeats which mainly contribute to binding.

Cellular localization

Cytoplasm. Nucleus.

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