

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP1968a**Specification**

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - Product InformationPrimary Accession [O00629](#)**Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - Additional Information****Gene ID** 3840**Other Names**

Importin subunit alpha-3, Importin alpha Q1, Qip1, Karyopherin subunit alpha-4, KPNA4, QIP1

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP1968a](/product/products/AP1968a) was selected from the N-term region of human Importin alpha-4. 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.

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - 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](http://www.uniprot.org/citations/10567565), PubMed: [20818336](http://www.uniprot.org/citations/20818336), PubMed: [28760339](http://www.uniprot.org/citations/28760339), PubMed: [29042532](http://www.uniprot.org/citations/29042532), PubMed: [38512451](http://www.uniprot.org/citations/38512451)). Binds specifically and directly to substrates containing either a simple or bipartite NLS motif (PubMed: [20818336](http://www.uniprot.org/citations/20818336), PubMed: [28760339](http://www.uniprot.org/citations/28760339), PubMed: [29042532](http://www.uniprot.org/citations/29042532), PubMed: [38512451](http://www.uniprot.org/citations/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

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - Images

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - 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.

Importin alpha-4 (KPNA4)Antibody (C-term) Blocking peptide - 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).