Importinbeta Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	Importinbeta (IMB1), Blocking Peptide
Full Product Name	Importinbeta Blocking Peptide
Product Gene Name	IMB1 blocking peptide
Product Synonym Gene Name	KPNB1
Product Synonym Names	IMB 1; IMB1_HUMAN; Impnb; Importin 90; Importin beta 1; Importin beta 1 subunit; Importin subunit beta-1; Importin-90; IPOB; Karyopherin beta 1; Karyopherin beta 1 subunit; Karyopherin subunit beta-1; KPNB 1; Kpnb1; MGC2155; MGC2156; MGC2157; NTF 97; NTF97; NTF97/Importin beta; Nuclear factor P97; Pore targeting complex 97 kDa subunit; PTAC97
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml.
Purity/Purification	The purity is >90%,tested by HPLC and MS.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	Importinbeta peptide (MBS9621792) is used for blocking the activity of Importinbeta antibody (MBS9611839)
Molecular Weight	81,179 Da
OMIM	602738
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Notes	For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for IMB1 blocking peptide	Blocking/Control
Related Product Information for IMB1 blocking peptide	Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody.
Other Notes	Small volumes of IMB1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for IMB1 purchase	MBS9621792 is a blocking peptide targeting IMB1. Also known as Importinbeta Blocking Peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for IMB1. It may not necessarily be applicable to this product.

NCBI GI #	449784879
NCBI GeneID	3837
NCBI Accession #	NP_001263382.1

UniProt Primary Accession #	Q14974
UniProt Secondary Accession #	Q14637; Q53XN2; Q96J27; B7ZAV6; D3DTT3
UniProt Related Accession #	Q14974
GenBank Nucleotide #	NP_001263382.1
NCBI Official Full Name	importin subunit beta-1 isoform 2
NCBI Official Synonym Full Names	karyopherin (importin) beta 1
NCBI Official Symbol	KPNB1
NCBI Official Synonym Symbols	IMB1; IPO1; IPOB; Impnb; NTF97
UniProt Protein Name	Importin subunit beta-1
UniProt Synonym Protein Names	Importin-90; Karyopherin subunit beta-1; Nuclear factor p97; Pore targeting complex 97 kDa subunit; PTAC97
UniProt Gene Name	KPNB1
UniProt Synonym Gene Names	NTF97; PTAC97
UniProt Entry Name	IMB1_HUMAN
NCBI Protein Information	importin subunit beta-1; PTAC97; importin 1; importin 90; importin beta-1 subunit; importin-90; karyopherin subunit beta-1; nuclear factor p97; pore targeting complex 97 kDa subunit
NCBI Summary for IMB1	Nucleocytoplasmic transport, a signal- and energy-dependent process, takes place through nuclear pore complexes embedded in the nuclear envelope. The import of proteins containing a nuclear localization signal (NLS) requires the NLS import receptor, a heterodimer of importin alpha and beta subunits also known as karyopherins. Importin alpha binds the NLS-containing cargo in the cytoplasm and importin beta docks the complex at the cytoplasmic side of the nuclear pore complex. In the presence of nucleoside triphosphates and the small GTP binding protein Ran, the complex moves into the nuclear pore complex and the importin subunits dissociate. Importin alpha enters the nucleoplasm with its passenger protein and importin beta remains at the pore. Interactions between importin beta and the FG repeats of nucleoporins are essential in translocation through the pore complex. The protein encoded by this gene is a member of the importin beta family. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Feb 2013]

UniProt Comments for IMB1	KPNB1: a nuclear import protein nuclear protein import that functions either in association with an adapter protein, like an importin-alpha subunit, which binds to nuclear localization signals (NLS) in cargo substrates, or by acting as autonomous nuclear transport receptor. Acting autonomously, serves itself as NLS receptor. 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. Mediates autonomously the nuclear import of ribosomal proteins RPL23A, RPS7 and RPL5. Binds to a beta-like import receptor binding (BIB) domain of RPL23A. In association with IPO7 mediates the nuclear import of H1 histone. In vitro, mediates nuclear import of H2A, H2B, H3 and H4 histones. In case of HIV-1 infection, binds and mediates the nuclear import of HIV-1 Rev. Imports PRKCI into the nucleus. Forms a complex with an importin alpha subunit. Forms a heterodimer with IPO7. Interacts with IPO7, SNUPN, RPL23A and XPO1. Two isoforms of the human protein have been reported. Belongs to the importin beta family. Protein type: Karyopherin; Nuclear import Chromosomal Location of Human Ortholog: 17q21.32 Cellular Component: nucleoplasm; nuclear membrane; membrane; cytoplasm; nuclear pore; nuclear envelope; cytosol Molecular Function: protein domain specific binding; protein binding; enzyme binding; zinc ion binding; nuclear localization sequence binding; Ran GTPase binding; protein transporter activity Biological Process: ribosomal protein import into nucleus; viral reproduction; apoptosis; protein import into nucleus; protein import into nucleus, translocation; cytokine and chemokine mediated signaling pathway; viral infectious cycle; NLS-bearing substrate import into nucleus; DNA fragmentation during apoptosis; cell structure disassembly during apoptosis
Research Articles on IMB1	**1.** These data reveal an emergent Kap-centric barrier mechanism that may underlie mechanistic and kinetic control in the nuclear pore complex.
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