

PRODUCT INFORMATION

Product name : KPNB1 antibody

Product type : Primary antibodies

Description : Rabbit polyclonal to KPNB1

Immunogen : 3 synthetic peptides (human) conjugated to KLH

Reacts with : Hu, Ms

Tested applications : ELISA & WB.

GENE INFORMATION

Gene Symbol : KPNB1

Gene Name : karyopherin (importin) beta 1

Ensembl ID : ENSG00000108424

Entrez GeneID : 3837

GenBank Accession number : L39793

Swiss-Prot : Q14974

Molecular weight of KPNB1 : 97.1 & 81.2kDa

Function : Functions in nuclear protein import, 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 SNAI1 and PRKCI into the nucleus.

Expected subcellular localization : Cytoplasm. Nucleus envelope

Summary : 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]

APPLICATION NOTE

Recommended dilution :

- **ELISA:** Antibody specificity was verified by direct ELISA against the 3 immunogen peptides. A titer of 1/10000 has been determined. Appropriate specificity controls were run.
- **WB:** 1/100.

Optimal dilutions/concentration should be determined by the end user.

Raised in : Rabbit

Clonality : Polyclonal

Isotype : IgG

Purity : Purified antibody

Storage buffer : Containing a final concentration of PBS/glycerol (V/V), 0.1% BSA and 0.01% Thimerosal.

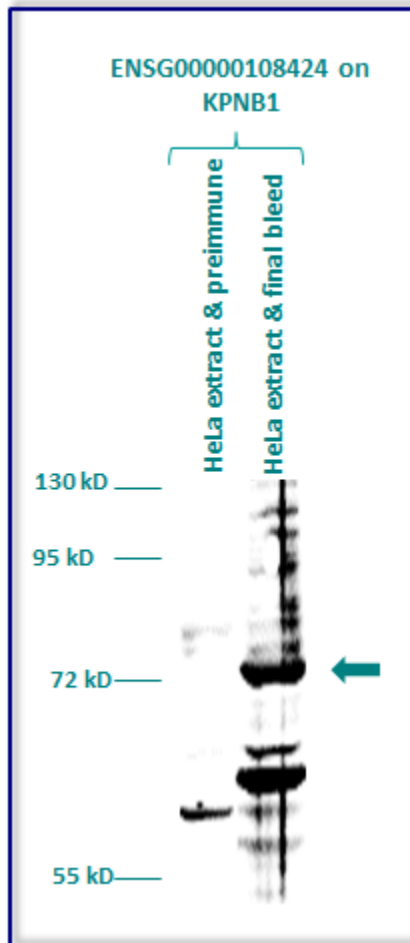
Form : Liquid

Storage instruction : Store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

WESTERN BLOT ON CELL LYSATE

The purified antibody ENSG00000108424 has been tested at 1/100 on protein extract of HeLa (Human cervix adenocarcinoma) cell line.

Molecular weight of KPNB1 : 97.1 & 81.2kDa.



Gel concentration: 10%

Blocking: in 5% non-fat milk-PBST solution

1st Antibody: The antibodies are diluted in blocking buffer.

- Dilute the purified antibody ENSG00000108424 at 1:100
- 60 minutes of incubation

2nd Antibody: The antibody is diluted in blocking buffer.

- Dilute the anti-Rabbit IgG HRP conjugated at 1/10000
- 60 minutes of incubation

NOTE: The purified antibody ENSG00000108424 gave a negative result when tested in the following cell lines (HELA, 293T/17, SAOS-2, SH-SY5Y, Skin 3,44) by Immunofluorescence.