

Product datasheet

Anti-KPNB1 antibody ab45938

★★★★★ 1 Abreviews 6 References 4 Images

Overview

Product name	Anti-KPNB1 antibody
Description	Rabbit polyclonal to KPNB1
Host species	Rabbit
Tested applications	Suitable for: IP, IHC-P, WB, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide corresponding to Human KPNB1 aa 50-150 conjugated to keyhole limpet haemocyanin. (Peptide available as ab45937)
Positive control	This antibody gave a positive signal in the following whole cell lysates: HeLa (Human epithelial carcinoma cell line); Jurkat (Human T cell lymphoblast-like cell line); A431 (Human epithelial carcinoma cell line); Daudi (Human Burkitt's lymphoma cell line); NIH 3T3 (Mouse embryonic fibroblast cell line); PC12 (Rat adrenal pheochromocytoma cell line). It also gave a positive signal in human testis tissue sections.
General notes	Previously labelled as NTF97/Importin beta.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab45938** in the following tested applications.

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

Application	Abreviews	Notes
IP		Use a concentration of 5 µg/ml.
IHC-P		Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
WB		Use a concentration of 2 µg/ml. Detects a band of approximately 97 kDa (predicted molecular weight: 97 kDa).
ICC/IF	★★★★★	1/200.

Target

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 PRKCI into the nucleus.

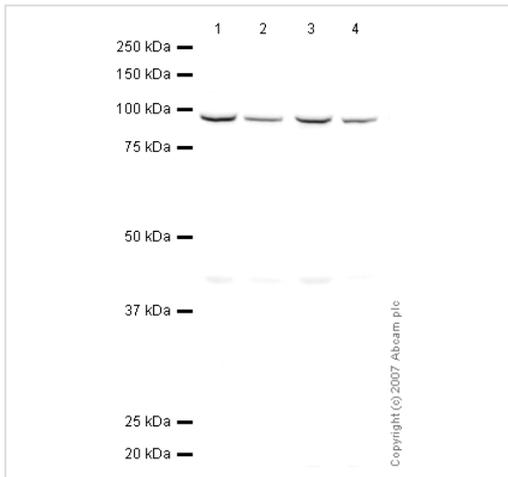
Sequence similarities

Belongs to the importin beta family.
 Contains 8 HEAT repeats.
 Contains 1 importin N-terminal domain.

Cellular localization

Cytoplasm. Nucleus envelope.

Images



Western blot - Anti-KPNB1 antibody (ab45938)

All lanes : Anti-KPNB1 antibody (ab45938) at 2 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate

Lane 2 : Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate

Lane 3 : NIH 3T3 whole cell lysate ([ab7179](#))

Lane 4 : PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate

Lysates/proteins at 15 µg per lane.

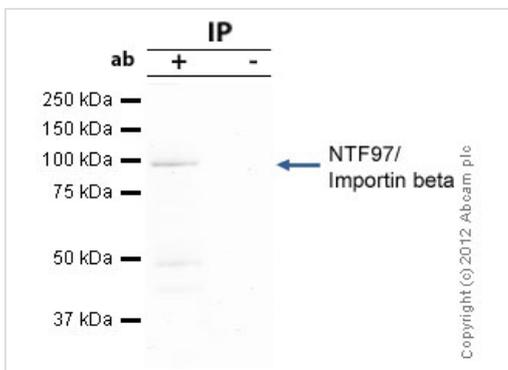
Secondary

All lanes : Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

Predicted band size: 97 kDa

Observed band size: 97 kDa



Immunoprecipitation - Anti-KPNB1 antibody (ab45938)

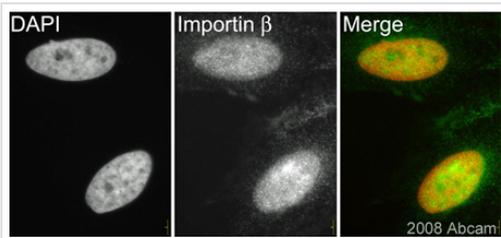
KPNB1 was immunoprecipitated using 0.5mg HeLa whole cell extract, 5µg of Rabbit polyclonal to KPNB1 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-). The antibody was incubated under agitation with Protein G beads for 10min, HeLa whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab45938.

Secondary: Mouse monoclonal [SB62a] Secondary Antibody to

Rabbit IgG light chain (HRP) ([ab99697](#)).

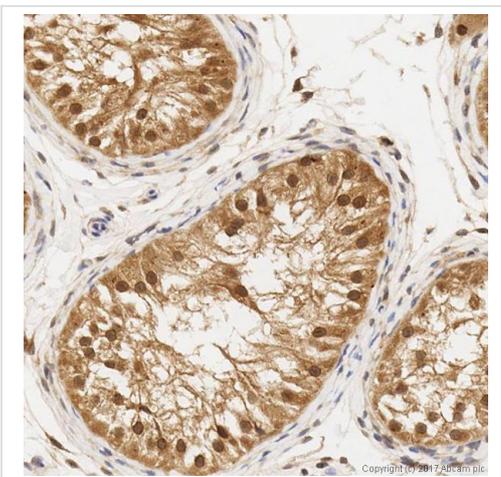
Band: 97kDa; KPNB1



Immunocytochemistry/ Immunofluorescence - Anti-KPNB1 antibody ([ab45938](#))

This image is courtesy of an Abreview submitted by Dr Kirk McManus

[ab45938](#) (1/200) detecting NTF97 in HeLa cells (green). Cells were fixed with paraformaldehyde, permeabilised with 0.5% Triton X100/PBS and counterstained with DAPI in order to highlight the nucleus (red). Please refer to [abreview](#) for further experimental details.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KPNB1 antibody ([ab45938](#))

IHC image of KPNB1 staining in a formalin fixed, paraffin embedded normal human testis tissue section*, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with [ab45938](#), 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre

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