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Goat Anti-Karyopherin (importin) beta 1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1581a

Specification

Goat Anti-Karyopherin (importin) beta 1 Antibody - Product Information

Application	**WB, IHC, IF, FC**
Primary Accession	Q14974
Other Accession	NP_002256, 3837, 16211 (mouse), 24917 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**97170**

Goat Anti-Karyopherin (importin) beta 1 Antibody - Additional Information

Gene ID 3837

Other Names
Importin subunit beta-1, Importin-90, Karyopherin subunit beta-1, Nuclear factor p97, Pore targeting complex 97 kDa subunit, PTAC97, KPNB1, NTF97

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-Karyopherin (importin) beta 1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-Karyopherin (importin) beta 1 Antibody - Protein Information

Name KPNB1

Synonyms NTF97

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 (PubMed:<a

href="http://www.uniprot.org/citations/10228156" target="_blank">10228156, PubMed:11682607, PubMed:11891849, PubMed:19386897, PubMed:20818336, PubMed:24699649, PubMed:7615630, PubMed:9687515). Acting autonomously, serves itself as NLS receptor (PubMed:10228156, PubMed:11682607, PubMed:11891849, PubMed:19386897, PubMed:20818336, PubMed:24699649, PubMed:7615630, PubMed:9687515). 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:10228156, PubMed:11682607, PubMed:11891849, PubMed:19386897, PubMed:20818336, PubMed:24699649, PubMed:7615630, PubMed:9687515). 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:10228156, PubMed:11682607, PubMed:11891849, PubMed:19386897, PubMed:20818336, PubMed:24699649, PubMed:7615630, PubMed:9687515). 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:10228156, PubMed:11682607, PubMed:11891849, PubMed:19386897, PubMed:24699649, PubMed:7615630, PubMed:9687515). Mediates autonomously the nuclear import of ribosomal proteins RPL23A, RPS7 and RPL5 (PubMed:11682607, PubMed:9687515). In association with IPO7, mediates the nuclear import of H1 histone (PubMed:10228156). In vitro, mediates nuclear import of H2A, H2B, H3 and H4 histones (By similarity). Imports MRTFA, SNAI1 and PRKCI into the nucleus (PubMed:11891849, PubMed:19386897, PubMed:20818336, PubMed:<a

href="http://www.uniprot.org/citations/24699649" target="_blank">24699649).

Cellular Location
Cytoplasm. Nucleus envelope

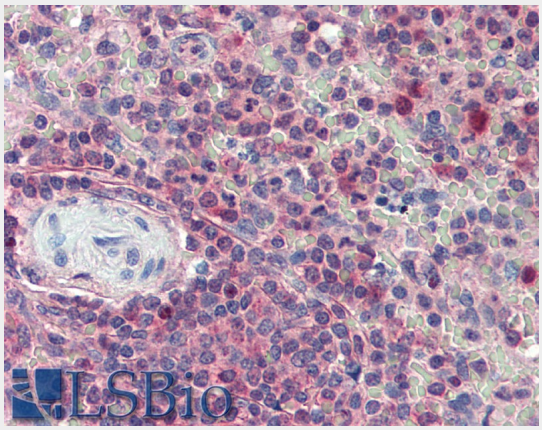
Goat Anti-Karyopherin (importin) beta 1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-Karyopherin (importin) beta 1 Antibody - Images

AF1581a (0.03 µg/ml) staining of Daudi cell lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



EB07018 (5µg/ml) staining of paraffin embedded Human Spleen. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

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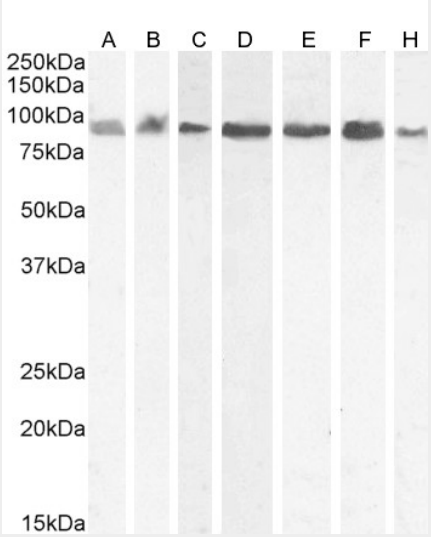
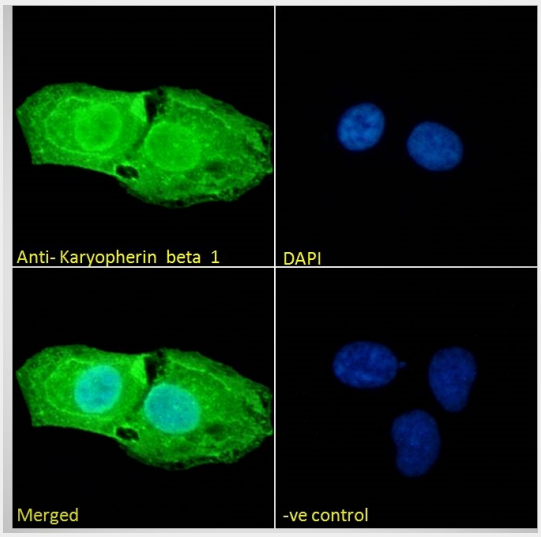


EB07018 (0.03µg/ml) staining of A431 (A), HEK293 (B), Jurkat (C), (0.01ug/ml) Daudi (D), HeLa (E) and (0.1ug/ml) Kelly (F) and KNRK (G) cell lysate (35µg protein in RIPA buffer). Detected by chemiluminescence.



EB07018 Immunofluorescence analysis of paraformaldehyde fixed U2OS cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing nuclear membrane, nuclear and cytoplasmic staining

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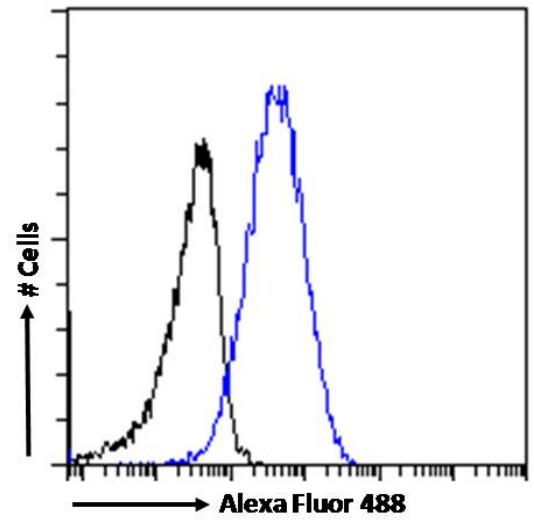

EB07018 Flow cytometric analysis of paraformaldehyde fixed A431 cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (1ug/ml). IgG control: Unimmunized goat IgG (black line) fol

Goat Anti-Karyopherin (importin) beta 1 Antibody - Background

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.

Goat Anti-Karyopherin (importin) beta 1 Antibody - References

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Inhibition of the calcineurin-NFAT signalling cascade in the treatment of heart failure. Panther F, et al. Recent Pat Cardiovasc Drug Discov, 2009 Nov. PMID 19925438.
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