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KPNB1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6816a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q14974
Other Accession	P52296, P70168
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB20681
Calculated MW	97170
Antigen Region	190-216

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
Target/Specificity	This KPNB1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 190-216 amino acids from the N-terminal region of human KPNB1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KPNB1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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: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:24699649).
Cellular Location	Cytoplasm. Nucleus envelope

Background

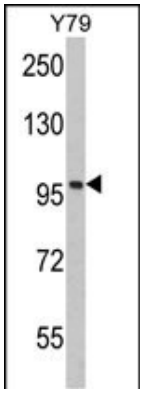
NTF97 is involved in nuclear protein import, either by associating itself with an adapter protein (for example, importin-alpha subunit which binds to nuclear localization signals (NLS) in cargo substrates), or by acting autonomously as a nuclear transport receptor.

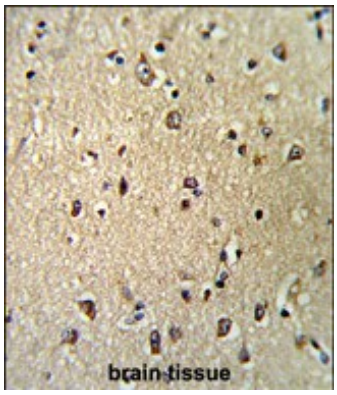
References

Nordgard,S.H., et.al., Genes Chromosomes Cancer 47 (8), 680-696 (2008)

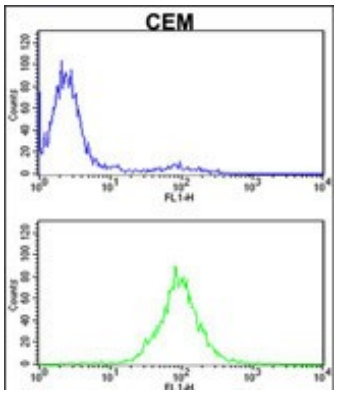
Images

Western blot analysis of KPNB1 Antibody (N-term) (Cat. #AP6816a) in Y79 cell line lysates (35ug/lane). KPNB1 (arrow) was detected using the purified Pab.





Formalin-fixed and paraffin-embedded human brain tissue reacted with KPNB1 Antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



KPNB1 Antibody (N-term) (Cat. #AP6816a) flow cytometric analysis of CEM cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.