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KPNA3 Antibody

Catalog # ASC11207

Product Information

Application	WB, IF, ICC, E
Primary Accession	O00505
Other Accession	NP_002258, 34485722
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	57811
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	KPNA3 antibody can be used for detection of KPNA3 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunocytochemistry starting at 10 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	3839
Other Names	Importin subunit alpha-4, Importin alpha Q2, Qip2, Karyopherin subunit alpha-3, SRP1-gamma, KPNA3, QIP2
Target/Specificity	KPNA3;
Reconstitution & Storage	KPNA3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	KPNA3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KPNA3
Synonyms	QIP2
Function	Functions in nuclear protein import as an adapter protein for nuclear receptor KPNB1. Binds specifically and directly to substrates containing either a simple or bipartite NLS motif. 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. In vitro, mediates the nuclear import of human cytomegalovirus UL84 by recognizing a non-classical NLS. Recognizes NLSs of influenza A virus nucleoprotein probably through ARM repeats 7-9.

Cellular Location Cytoplasm. Nucleus

Tissue Location Ubiquitous. Highest levels in heart and skeletal muscle

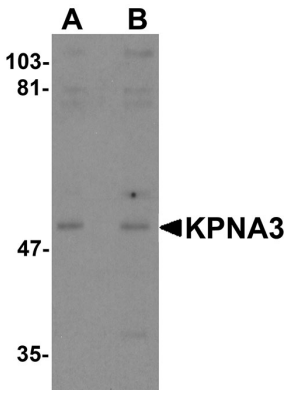
Background

KPNA3 Antibody: Karyopherin, a cytosolic and heterodimeric protein complex consisting of alpha and beta subunits, is responsible for targeting proteins with nuclear localization signals to the nuclear pore complex by an energy requiring, Ran-dependent mechanism. The alpha subunit and imported substrate enter the nucleus and accumulate in the nucleoplasm, while the beta subunit accumulates at the NPC. KPNA3, the alpha subunit 3 of karyopherin, is silimar to human KPNA2, suggesting that KPNA3 may be involved in the nuclear transport system. It is ubiquitously expressed and recent studies have shown that human KPNA3 may be associated with schizophrenia.

References

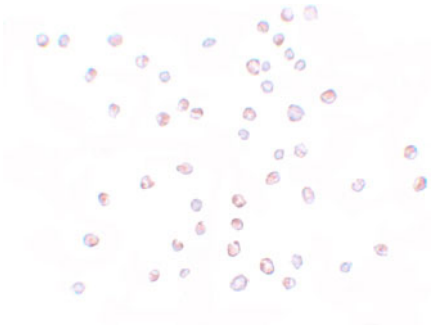
Moroianu J. Molecular mechanisms of nuclear protein transport. Crit. Rev. Eukaryot. Gene Expr.1997; 7:61-72.
Gilchrist D and Rexach M. Molecular basis for the rapid dissociation of nuclear localization signals from karyopherin alpha in the nucleoplasm. J. Biol. Chem.2003; 278: 51937-49.
Takeda S, Fujiwara T, Shimizu F, et al. Isolation and mapping of karyopherin alpha 3 (KPNA3), a human gene that is highly homologous to genes encoding Xenopus importin, yeast SRP1 and human RCH1. Cytogenet. Cell Genet.1997; 76:87-93.
Zhang H, Ju G, Wei J, et al. A combined effect of the KPNA3 and KPNB3 genes on susceptibility to schizophrenia. Neurosci. Lett.2006; 402:173-5.

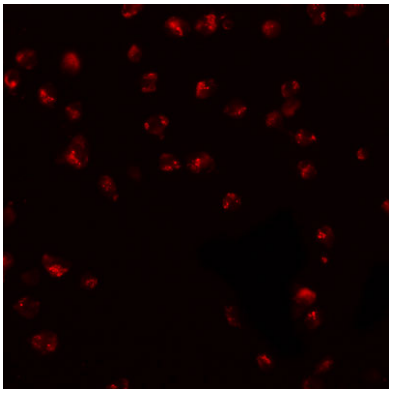
Images



Western blot analysis of KPNA3 in EL4 cell lysate with KPNA3 antibody at (A) 1 and (B) 2 µg/mL.

Immunocytochemistry of KPNA3 in HeLa cells with KPNA3 antibody at 10 µg/mL.





Immunofluorescence of KPNA3 in EL4 cells with KPNA3 antibody at 20 µg/mL.