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KPNA5 Antibody

Catalog # ASC11428

Product Information

Application	WB, IF, ICC, E
Primary Accession	O15131
Other Accession	CAH71948, 55664992
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	60666
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	KPNA5 antibody can be used for detection of EPAC1 by Western blot at 1 g/mL. Antibody can also be used for immunocytochemistry starting at 5 g/mL. For immunofluorescence start at 5 g/mL.

Additional Information

Gene ID	3841
Other Names	Importin subunit alpha-6, Karyopherin subunit alpha-5, KPNA5
Target/Specificity	KPNA5; KPNA5 antibody is predicted to not cross-react with other Importin alpha family members.
Reconstitution & Storage	KPNA5 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	KPNA5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KPNA5 (HGNC:6398)
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. Mediates nuclear import of STAT1 homodimers and STAT1/STAT2 heterodimers by recognizing non-classical NLSs of STAT1 and STAT2 through ARM repeats 8-9. Recognizes influenza A virus nucleoprotein through ARM repeat 7-9 In vitro, mediates the nuclear import of human cytomegalovirus UL84 by recognizing a non-classical NLS.

Cellular Location Cytoplasm.

Tissue Location Testis.

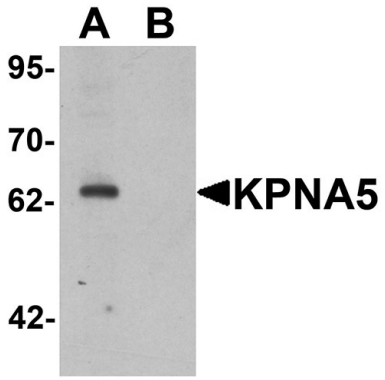
Background

KPNA5 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 (NPC) 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. KPNA5 belongs to a subfamily within the KPNA family that also includes KPNA4 and 6 and is thought to be involved in NLS-dependent protein imort into the nucleus.

References

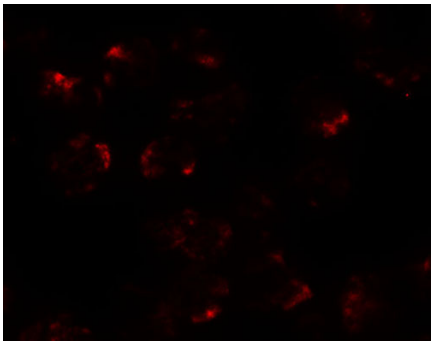
Moroianu J. Molecular mechanisms of nuclear protein transport. Crit. Rev. Eukaryot. Gene. Expr. 1997; 7:61-72.
Gilchrist D and Rexach M. Molecular basis for the rapid dissociation of nuclear localization signals from karyopherin alpha in the nucleoplasm. J. Biol. Chem. 2003; 278: 51937-49
Kohler MC, Fiebeler M, Hartwig S, et al. Evidence for distinct substrate specificity of importin alpha family members in nuclear protein import. Mol. Cell. Biol. 1999; 19:7782-91.

Images



Western blot analysis of KPNA6 in EL4 cell lysate with KPNA5 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Immunocytochemistry of KPNA5 in EL4 cells with KPNA5 antibody at 5 µg/mL.



Immunofluorescence of KPNA5 in EL4 cells with KPNA5 antibody at 20 µg/mL.

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