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IPO7 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5434a

Product Information

Application	WB, IHC-P, E
Primary Accession	O95373
Other Accession	Q9EPL8, NP_006382.1
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB26876
Calculated MW	119517
Antigen Region	142-169

Additional Information

Gene ID	10527
Other Names	Importin-7, Imp7, Ran-binding protein 7, RanBP7, IPO7, RANBP7
Target/Specificity	This IPO7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 142-169 amino acids from the N-terminal region of human IPO7.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	IPO7 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IPO7
Synonyms	RANBP7
Function	Functions in nuclear protein import, either by acting as autonomous nuclear

	transport receptor or as an adapter-like protein in association with the importin-beta subunit KPNB1. Acting autonomously, is thought to serve itself as receptor for nuclear localization signals (NLS) and to promote translocation of import substrates through the nuclear pore complex (NPC) by an energy requiring, Ran-dependent mechanism. At the nucleoplasmic side of the NPC, Ran binds to importin, the importin/substrate complex dissociates and importin is re-exported from the nucleus to the cytoplasm where GTP hydrolysis releases Ran. 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 (PubMed:11682607). In association with KPNB1 mediates the nuclear import of H1 histone and the Ran-binding site of IPO7 is not required but synergizes with that of KPNB1 in importin/substrate complex dissociation. Promotes odontoblast differentiation via promoting nuclear translocation of DLX3, KLF4, SMAD2, thereby facilitating the transcription of target genes that play a role in odontoblast differentiation (By similarity). Facilitates BMP4-induced translocation of SMAD1 to the nucleus and recruitment to the MSX1 gene promoter, thereby promotes the expression of the odontogenic regulator MSX1 in dental mesenchymal cells (By similarity). Also promotes odontoblast differentiation by facilitating the nuclear translocation of HDAC6 and subsequent repression of RUNX2 expression (By similarity). Inhibits osteoblast differentiation by inhibiting nuclear translocation of RUNX2 and therefore inhibition of RUNX2 target gene transcription (By similarity). In vitro, mediates nuclear import of H2A, H2B, H3 and H4 histones.
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q9EPL8}. Nucleus {ECO:0000250|UniProtKB:Q9EPL8}. Note=Localizes to the nucleus in the presence of BMP4. {ECO:0000250|UniProtKB:Q9EPL8}

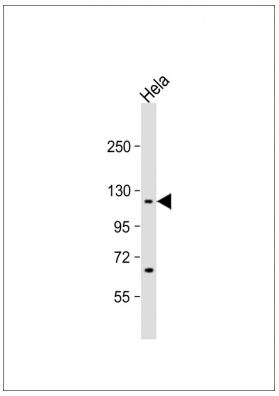
Background

The importin-alpha/beta complex and the GTPase Ran mediate nuclear import of proteins with a classical nuclear localization signal. The protein encoded by this gene is a member of a class of approximately 20 potential Ran targets that share a sequence motif related to the Ran-binding site of importin-beta. Similar to importin-beta, this protein prevents the activation of Ran's GTPase by RanGAP1 and inhibits nucleotide exchange on RanGTP, and also binds directly to nuclear pore complexes where it competes for binding sites with importin-beta and transportin. This protein has a Ran-dependent transport cycle and it can cross the nuclear envelope rapidly and in both directions. At least four importin beta-like transport receptors, namely importin beta itself, transportin, RanBP5 and RanBP7, directly bind and import ribosomal proteins.

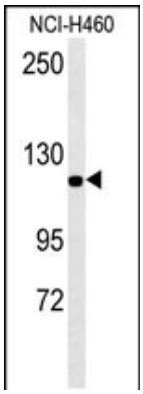
References

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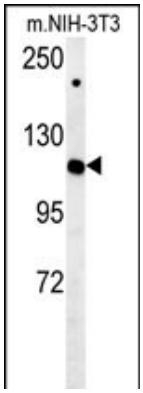
Images



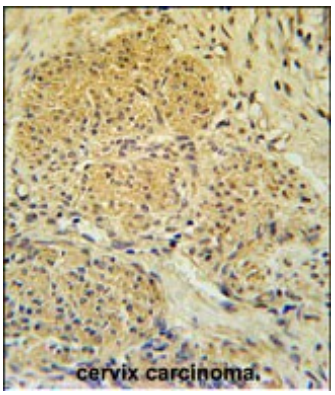
Anti-IPO7 Antibody (N-term) at 1:1000 dilution + Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 120 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



IPO7 Antibody (N-term)(Cat. #AP5434a) western blot analysis in NCI-H460 cell line lysates (35ug/lane).This demonstrates the IPO7 antibody detected the IPO7 protein (arrow).



IPO7 Antibody (N-term)(Cat. #AP5434a) western blot analysis in mouse NIH-3T3 cell line lysates (35ug/lane).This demonstrates the IPO7 antibody detected the IPO7 protein (arrow).



IPO7 Antibody (N-term) (Cat. #AP5434a) immunohistochemistry analysis in formalin fixed and paraffin embedded human cervix carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CRABP1 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

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