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Goat Anti-RANBP7 / Importin 7 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1909a

Specification

Goat Anti-RANBP7 / Importin 7 Antibody - Product Information

Application	**WB**
Primary Accession	O95373
Other Accession	NP_006382, 10527
Reactivity	**Human**
Predicted	**Mouse, Rat, Dog, Cow**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**119517**

Goat Anti-RANBP7 / Importin 7 Antibody - Additional Information

Gene ID 10527

Other Names
Importin-7, Imp7, Ran-binding protein 7, RanBP7, IPO7, RANBP7

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-RANBP7 / Importin 7 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-RANBP7 / Importin 7 Antibody - 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}

Goat Anti-RANBP7 / Importin 7 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-RANBP7 / Importin 7 Antibody - Images



AF1909a staining (0.1 µg/ml) of Human Brain lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

Goat Anti-RANBP7 / Importin 7 Antibody - 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.

Goat Anti-RANBP7 / Importin 7 Antibody - References

Aire's partners in the molecular control of immunological tolerance. Abramson J, et al. Cell, 2010 Jan 8. PMID 20085707.
Transport of hypoxia-inducible factor HIF-1alpha into the nucleus involves importins 4 and 7. Chachami G, et al. Biochem Biophys Res Commun, 2009 Dec 11. PMID 19788888.
Defining the human deubiquitinating enzyme interaction landscape. Sowa ME, et al. Cell, 2009 Jul 23. PMID 19615732.
A genome-wide association study of hypertension and blood pressure in African Americans. Adeyemo A, et al. PLoS Genet, 2009 Jul. PMID 19609347.
ARHI (DIRAS3), an imprinted tumour suppressor gene, binds to importins and blocks nuclear import of cargo proteins. Huang S, et al. Biosci Rep, 2009 Dec 15. PMID 19435463.