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Goat Anti-KPNA4 / IPOA3 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1604a

Specification

Goat Anti-KPNA4 / IPOA3 Antibody - Product Information

Application	**WB, Pep-ELISA**
Primary Accession	O00629
Other Accession	NP_002259, 3840
Reactivity	**Human, Mouse**
Predicted	**Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**57887**

Goat Anti-KPNA4 / IPOA3 Antibody - Additional Information

Gene ID 3840

Other Names
Importin subunit alpha-3, Importin alpha Q1, Qip1, Karyopherin subunit alpha-4, KPNA4, QIP1

Dilution
WB~~1:1000
Pep-ELISA~~N/A

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-KPNA4 / IPOA3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-KPNA4 / IPOA3 Antibody - Protein Information

Name KPNA4 {ECO:0000303|PubMed:38512451, ECO:0000312|HGNC:HGNC:6397}

Function
Functions in nuclear protein import as an adapter protein for nuclear receptor KPNB1 (PubMed:10567565, PubMed:<a

href="http://www.uniprot.org/citations/20818336" target="_blank">20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). Binds specifically and directly to substrates containing either a simple or bipartite NLS motif (PubMed:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). 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:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). 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:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). 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:20818336, PubMed:28760339, PubMed:29042532, PubMed:38512451). Mediates nuclear import of AARS1, MRTFA and RANBP3 (PubMed:10567565, PubMed:20818336, PubMed:28760339, PubMed:38512451).

Cellular Location
Cytoplasm. Nucleus

Tissue Location
Highly expressed in testis, ovary, small intestine, heart, skeletal muscle, lung and pancreas, but barely detectable in kidney, thymus, colon and peripheral blood leukocytes

Goat Anti-KPNA4 / IPOA3 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-KPNA4 / IPOA3 Antibody - Images

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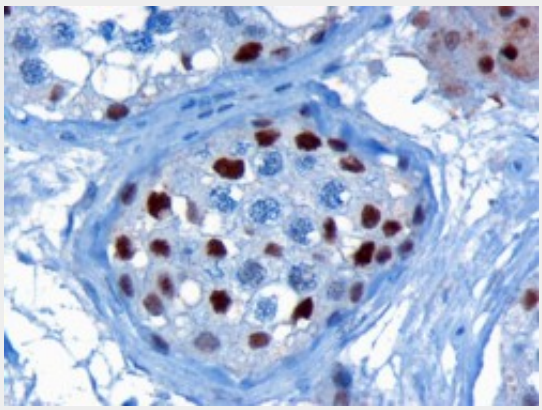
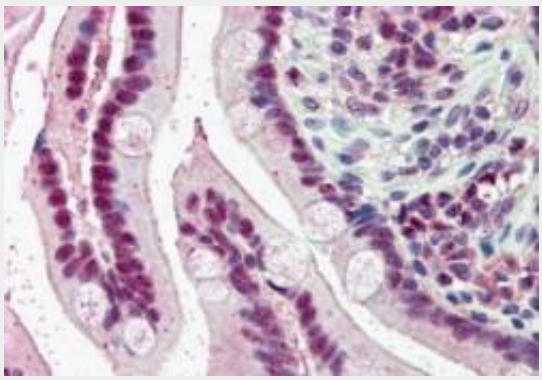
AF1604a staining (0.5 µg/ml) of Human Testis lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.



AF1604a (3 µg/ml) staining of paraffin embedded Human Testis. Microwaved antigen retrieval with citrate buffer pH 6, HRP-staining.



AF1604a (5 µg/ml) staining of paraffin embedded Human Small Intestine. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

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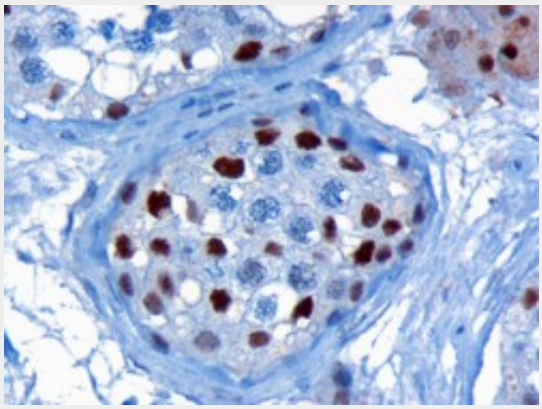
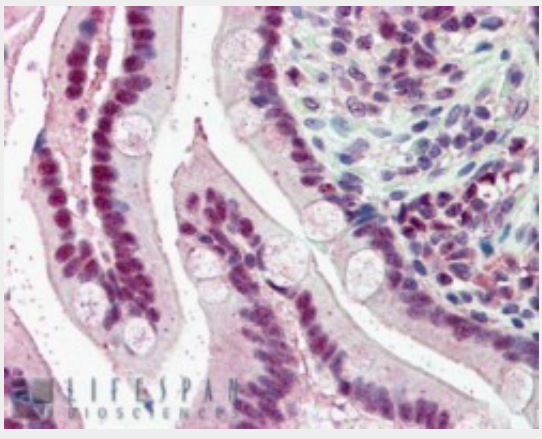
EB06238 staining (0.1µg/ml) of Human Ovary (A), Mouse Testes (B), (0.3ug/ml) Mouse Overy (C) and (0.03ug/ml) Rat Testes (D) lysate (RIPA buffer, 35µg total protein per lane). Detected by chemiluminescence.



EB06238 (3µg/ml) staining of paraffin embedded Human Testis. Microwaved antigen retrieval with citrate buffer pH 6, HRP-staining. **This data is from a previous batch, not on sale.**



EB06238 (5µg/ml) staining of paraffin embedded Human Small Intestine. Steamed antigen retrieval with citrate buffer pH 6, AP-staining. **This data is from a previous batch, not on sale.**

Goat Anti-KPNA4 / IPOA3 Antibody - Background

The nuclear import of karyophilic proteins is directed by short amino acid sequences termed nuclear localization signals (NLSs). Karyopherins, or importins, are cytoplasmic proteins that recognize NLSs and dock NLS-containing proteins to the nuclear pore complex. The protein encoded by this gene shares the sequence similarity with Xenopus importin-alpha and Saccharomyces cerevisiae Srp1. This protein is found to interact with the NLSs of DNA helicase Q1 and SV40 T antigen.

Goat Anti-KPNA4 / IPOA3 Antibody - References

Importin alpha3 interacts with HIV-1 integrase and contributes to HIV-1 nuclear import and replication. Ao Z, et al. J Virol, 2010 Sep. PMID 20554775.
Common importin alpha specificity for papillomavirus E2 proteins. Bian XL, et al. Virus Res, 2010 Jun. PMID 20193720.
Stress-mediated nuclear stabilization of p53 is regulated by ubiquitination and importin-alpha3 binding. Marchenko ND, et al. Cell Death Differ, 2010 Feb. PMID 19927155.
Prohibitin inhibits tumor necrosis factor alpha-induced nuclear factor-kappa B nuclear translocation via the novel mechanism of decreasing importin alpha3 expression. Theiss AL, et al. Mol Biol Cell, 2009 Oct. PMID 19710421.
Plasmodium circumsporozoite protein promotes the development of the liver stages of the parasite. Singh AP, et al. Cell, 2007 Nov 2. PMID 17981117.