

Goat Anti-KPNA2 / IPOA1 Antibody

Peptide-affinity purified goat antibody Catalog # AF1602a

Specification

Goat Anti-KPNA2 / IPOA1 Antibody - Product Information

Application WB, IF Primary Accession P52292

Other Accession NP 002257, 3838, 16647 (mouse), 85245 (rat)

Reactivity Human

Predicted Mouse, Rat, Dog

Host Goat
Clonality Polyclonal
Concentration 0.5 mg/ml
Isotype IgG
Calculated MW 57862

Goat Anti-KPNA2 / IPOA1 Antibody - Additional Information

Gene ID 3838

Other Names

Importin subunit alpha-1, Karyopherin subunit alpha-2, RAG cohort protein 1, SRP1-alpha, KPNA2, RCH1, SRP1

Format

0.5~mg lgG/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-KPNA2 / IPOA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-KPNA2 / IPOA1 Antibody - Protein Information

Name KPNA2 (HGNC:6395)

Synonyms RCH1, SRP1

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.

Cellular Location Cytoplasm. Nucleus

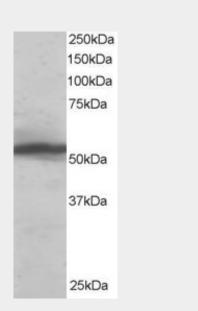
Tissue Location Expressed ubiquitously.

Goat Anti-KPNA2 / IPOA1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

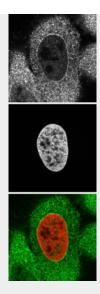
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

Goat Anti-KPNA2 / IPOA1 Antibody - Images



AF1602a staining (0.1 μ g/ml) of Hela lysate (RIPA buffer, 35 μ g total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.





AF1602a staining (top panel and green) of 4% formaldahyde-fixed HeLa with endogenously expressed HistonH2B-GFP fusion as DNA marker (mid panel and red). Data kindly provided by Francisco Iborra, MRC Mol. Haematol. Unit, Oxford.

Goat Anti-KPNA2 / IPOA1 Antibody - Background

The import of proteins into the nucleus is a process that involves at least 2 steps. The first is an energy-independent docking of the protein to the nuclear envelope and the second is an energy-dependent translocation through the nuclear pore complex. Imported proteins require a nuclear localization sequence (NLS) which generally consists of a short region of basic amino acids or 2 such regions spaced about 10 amino acids apart. Proteins involved in the first step of nuclear import have been identified in different systems. These include the Xenopus protein importin and its yeast homolog, SRP1 (a suppressor of certain temperature-sensitive mutations of RNA polymerase I in Saccharomyces cerevisiae), which bind to the NLS. KPNA2 protein interacts with the NLSs of DNA helicase Q1 and SV40 T antigen and may be involved in the nuclear transport of proteins. KPNA2 also may play a role in V(D)] recombination

Goat Anti-KPNA2 / IPOA1 Antibody - References

Significance of karyopherin-{alpha} 2 (KPNA2) expression in esophageal squamous cell carcinoma. Sakai M, et al. Anticancer Res, 2010 Mar. PMID 20393006.

Identification of importin alpha1 as a novel constituent of RNA stress granules. Fujimura K, et al. Biochim Biophys Acta, 2010 Jul. PMID 20362631.

Inhibition of HIV-1 integrase nuclear import and replication by a peptide bearing integrase putative nuclear localization signal. Levin A, et al. Retrovirology, 2009 Dec 5. PMID 19961612.

Single nucleotide polymorphisms in miRNA binding sites and miRNA genes as breast/ovarian cancer risk modifiers in Jewish high-risk women. Kontorovich T, et al. Int J Cancer, 2010 Aug 1. PMID 19950226.

Specificity of Hexim1 and Hexim2 complex formation with cyclin T1/T2, importin alpha and 7SK snRNA. Czudnochowski N, et al. J Mol Biol, 2010 Jan 8. PMID 19883659.