

## Product datasheet

# Recombinant Human KPNA5 protein ab116831

1 Image

### Overview

|                       |                                 |
|-----------------------|---------------------------------|
| <b>Product name</b>   | Recombinant Human KPNA5 protein |
| <b>Protein length</b> | Full length protein             |

### Description

|               |             |
|---------------|-------------|
| <b>Nature</b> | Recombinant |
| <b>Source</b> | Wheat germ  |

### Amino Acid Sequence

|                  |   |
|------------------|---|
| <b>Accession</b> | <a href="#">O15131</a>  |
| <b>Species</b>   | Human   |
| <b>Sequence</b>  | MDAMASPGKDNYRMKSYKNKALNPQEMRRRREEEGIQLRKQKREEQLFKR<br>RNVYLPRNDESMLESPIQDPDISSTVPIPEEEVVTDMVQMIFSNNADQQ<br>LTATQKFRKLLSKEPNPIDQVIQKPGVVQRFVKFLERNENCTLQFEAAW<br>ALTNIASGTFLHTKVVIETGAVPIFIKLLNSEHEDVQEQAVALGNIAGD<br>NAECRDFVLNCEILPPLLELLTNSNRLTTRNAVWALSNLCRGKNPPPNF<br>SKVSPCLNVLSRLLFSSDPDVLADVCWALSYLSGPNDKIQAVIDSGVCR<br>RLVELLMHNDYKVVSPALRAVGNVTGDDIQTQVILNCSALPCLLHLLSS<br>PKESIRKEACWTVSNITAGNRAQIQAVIDANIFPVLIEILQKAEFRTRKE<br>AAWAITNATSGGTPEQIRYLVALGCIKPLCDLLTVMDSKIVQVALNGLN<br>ILRLGEQESKQNGIGINPYCALIEEAYGLDKIEFLQSHENQEYQKAFDL<br>IEHYFGVEEDDPSIVPQVDENQQQFIFQQQEAPMDGFQL |

|                         |                       |
|-------------------------|-----------------------|
| <b>Molecular weight</b> | 85 kDa including tags |
| <b>Amino acids</b>      | 1 to 539              |

### Specifications

Our [Abpromise guarantee](#) covers the use of **ab116831** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

|                     |                                   |
|---------------------|-----------------------------------|
| <b>Applications</b> | ELISA<br>SDS-PAGE<br>Western blot |
| <b>Form</b>         | Liquid                            |

**Additional notes**

Protein concentration is above or equal to 0.05 mg/ml.  
Best use within three months from the date of receipt of this protein.

**Preparation and Storage**

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**Stability and Storage**

Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.

pH: 8.00

Constituents: 0.3% Glutathione, 0.79% Tris HCl

**General Info**

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**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.

**Tissue specificity**

Testis.

**Sequence similarities**

Belongs to the importin alpha family.

Contains 10 ARM repeats.

Contains 1 IBB domain.

**Domain**

Consists of an N-terminal hydrophilic region, a hydrophobic central region composed of 10 repeats, and a short hydrophilic C-terminus. The N-terminal hydrophilic region contains the importin beta binding domain (IBB domain), which is sufficient for binding importin beta and essential for nuclear protein import.

The IBB domain is thought to act as an intrasteric autoregulatory sequence by interacting with the internal autoinhibitory NLS. Binding of KPNB1 probably overlaps the internal NLS and contributes to a high affinity for cytoplasmic NLS-containing cargo substrates. After dissociation of the importin/substrate complex in the nucleus the internal autoinhibitory NLS contributes to a low affinity for nuclear NLS-containing proteins.

The major and minor NLS binding sites are mainly involved in recognition of simple or bipartite NLS motifs. Structurally located within in a helical surface groove they contain several conserved Trp and Asn residues of the corresponding third helices (H3) of ARM repeats which mainly contribute to binding.

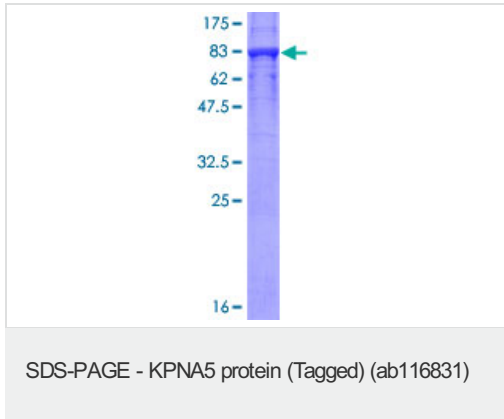
**Cellular localization**

Cytoplasm.

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**Images**

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12.5% SDS-PAGE stained with Coomassie  
Blue showing ab116831

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