

**KPNA2 Antibody**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 58	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P52292	<b>Entrez-Gene Id:</b> 3838
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**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. *Do not aliquot the antibody.*

**Specificity/Sensitivity**

KPNA2 Antibody recognizes endogenous levels of total KPNA2 protein.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu66 of human KPNA2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

Importins belong to the karyopherin family of nuclear transport proteins and are divided into two subgroups: importin alpha and importin beta. Importins function mainly in the import and export of nuclear proteins (1,2). KPNA2 (karyopherin alpha 2), a member of the importin alpha family, contains an N-terminal importin beta binding (IBB) motif followed by a hydrophobic region consisting of 10 armadillo repeats that function in binding to the nuclear localization signal (NLS) sites of cargo proteins (3-5). A trimeric complex (importin beta/KPNA2/cargo protein) forms, translocates into the nucleus, and then dissociates upon binding of RanGTP to importin beta. The dissociated importin alpha is recycled back to the cytoplasm with the help of export factor CAS (6,7). KPNA2 can differentially regulate target localization by binding to different cargo proteins, either actively transporting them to the nucleus (such as oct3/4) or retaining them in the cytoplasm by formation of incompetent complexes (such as oct6/brn2) (8). Research studies indicate that KPNA2 promotes cell proliferation and tumorigenesis. Research studies have also shown that up-regulation of KPNA2 is associated with cancer progression. Therefore, it has become a focus of biomarker research (9-13).

**Background References**

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8. Yasuhara, N. et al. (2013) *Dev Cell* 26, 123-35.
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11. Altan, B. et al. (2013) *Carcinogenesis* 34, 2314-21.
12. Rachidi, S.M. et al. (2013) *PLoS One* 8, e57911.
13. He, L. et al. (2012) *PLoS One* 7, e42992.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat

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