

#14372 Store at -20°C

# KPNA2 Antibody


**Cell Signaling**  
TECHNOLOGY®

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	58	Rabbit	#P52292	3838

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	KPNA2 Antibody recognizes endogenous levels of total KPNA2 protein.	
<b>Source / Purification</b>	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.	
<b>Background</b>	<p>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).</p>	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Chook, Y.M. and Blobel, G. (2001) <i>Curr Opin Struct Biol</i> 11, 703-15.</li> <li>2. Pemberton, L.F. and Paschal, B.M. (2005) <i>Traffic</i> 6, 187-98.</li> <li>3. Kelley, J.B. et al. (2010) <i>BMC Cell Biol</i> 11, 63.</li> <li>4. Weis, K. et al. (1995) <i>Science</i> 268, 1049-53.</li> <li>5. Fontes, M.R. et al. (2003) <i>J Biol Chem</i> 278, 27981-7.</li> <li>6. Görlich, D. (1998) <i>EMBO J</i> 17, 2721-7.</li> <li>7. Goldfarb, D.S. et al. (2004) <i>Trends Cell Biol</i> 14, 505-14.</li> <li>8. Yasuhara, N. et al. (2013) <i>Dev Cell</i> 26, 123-35.</li> <li>9. Huang, L. et al. (2013) <i>Cell Death Dis</i> 4, e745.</li> <li>10. Grupp, K. et al. (2014) <i>Mod Pathol</i> 27, 96-106.</li> <li>11. Altan, B. et al. (2013) <i>Carcinogenesis</i> 34, 2314-21.</li> <li>12. Rachidi, S.M. et al. (2013) <i>PLoS One</i> 8, e57911.</li> <li>13. He, L. et al. (2012) <i>PLoS One</i> 7, e42992.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>WB:</b> Western Blotting

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

**Trademarks and Patents**

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.  
All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](https://cellsignal.com/trademarks) for more information.

**Limited Uses**

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.