

**RAN Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP51465**

## Specification

## RAN Antibody - Product Information

|                   |                        |
|-------------------|------------------------|
| Application       | WB                     |
| Primary Accession | <a href="#">P62826</a> |
| Reactivity        | Human, Mouse, Rat      |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Calculated MW     | 24 KDa                 |
| Antigen Region    | 151 - 210              |

## RAN Antibody - Additional Information

**Gene ID 5901**

## Other Names

GTP-binding nuclear protein Ran, Androgen receptor-associated protein 24, GTPase Ran, Ras-like protein TC4, Ras-related nuclear protein, RAN, ARA24

## Target/Specificity

KLH conjugated synthetic peptide derived from human RAN

## Dilution

WB ~ 1:8000

## Format

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

## Storage

Store at -20 °C. Stable for 12 months from date of receipt

## RAN Antibody - Protein Information

**Name** RAN

**Synonyms** ARA24 {ECO:0000303|PubMed:10400640}

## Function

GTPase involved in nucleocytoplasmic transport, participating both to the import and the export from the nucleus of proteins and RNAs (PubMed:<a href="http://www.uniprot.org/citations/10400640" target="\_blank">10400640</a>, PubMed:<a href="http://www.uniprot.org/citations/17209048" target="\_blank">17209048</a>, PubMed:<a href="http://www.uniprot.org/citations/26272610" target="\_blank">26272610</a>, PubMed:<a href="http://www.uniprot.org/citations/27306458" target="\_blank">27306458</a>, PubMed:<a href="http://www.uniprot.org/citations/8276887" target=" blank">8276887</a>, PubMed:<a

href="http://www.uniprot.org/citations/8636225" target="\_blank">8636225</a>, PubMed:<a href="http://www.uniprot.org/citations/8692944" target="\_blank">8692944</a>, PubMed:<a href="http://www.uniprot.org/citations/8896452" target="\_blank">8896452</a>, PubMed:<a href="http://www.uniprot.org/citations/9351834" target="\_blank">9351834</a>, PubMed:<a href="http://www.uniprot.org/citations/9428644" target="\_blank">9428644</a>, PubMed:<a href="http://www.uniprot.org/citations/9822603" target="\_blank">9822603</a>). Switches between a cytoplasmic GDP- and a nuclear GTP-bound state by nucleotide exchange and GTP hydrolysis (PubMed:<a href="http://www.uniprot.org/citations/11336674" target="\_blank">11336674</a>, PubMed:<a href="http://www.uniprot.org/citations/26272610" target="\_blank">26272610</a>, PubMed:<a href="http://www.uniprot.org/citations/29040603" target="\_blank">29040603</a>, PubMed:<a href="http://www.uniprot.org/citations/7819259" target="\_blank">7819259</a>, PubMed:<a href="http://www.uniprot.org/citations/8636225" target="\_blank">8636225</a>, PubMed:<a href="http://www.uniprot.org/citations/8692944" target="\_blank">8692944</a>, PubMed:<a href="http://www.uniprot.org/citations/8896452" target="\_blank">8896452</a>, PubMed:<a href="http://www.uniprot.org/citations/9351834" target="\_blank">9351834</a>, PubMed:<a href="http://www.uniprot.org/citations/9428644" target="\_blank">9428644</a>, PubMed:<a href="http://www.uniprot.org/citations/9822603" target="\_blank">9822603</a>). Nuclear import receptors such as importin beta bind their substrates only in the absence of GTP-bound RAN and release them upon direct interaction with GTP-bound RAN, while export receptors behave in the opposite way. Thereby, RAN controls cargo loading and release by transport receptors in the proper compartment and ensures the directionality of the transport (PubMed:<a href="http://www.uniprot.org/citations/8896452" target="\_blank">8896452</a>, PubMed:<a href="http://www.uniprot.org/citations/9351834" target="\_blank">9351834</a>, PubMed:<a href="http://www.uniprot.org/citations/9428644" target="\_blank">9428644</a>). Interaction with RANBP1 induces a conformation change in the complex formed by XPO1 and RAN that triggers the release of the nuclear export signal of cargo proteins (PubMed:<a href="http://www.uniprot.org/citations/20485264" target="\_blank">20485264</a>). RAN (GTP-bound form) triggers microtubule assembly at mitotic chromosomes and is required for normal mitotic spindle assembly and chromosome segregation (PubMed:<a href="http://www.uniprot.org/citations/10408446" target="\_blank">10408446</a>, PubMed:<a href="http://www.uniprot.org/citations/29040603" target="\_blank">29040603</a>). Required for normal progress through mitosis (PubMed:<a href="http://www.uniprot.org/citations/12194828" target="\_blank">12194828</a>, PubMed:<a href="http://www.uniprot.org/citations/29040603" target="\_blank">29040603</a>, PubMed:<a href="http://www.uniprot.org/citations/8421051" target="\_blank">8421051</a>). The complex with BIRC5/survivin plays a role in mitotic spindle formation by serving as a physical scaffold to help deliver the RAN effector molecule TPX2 to microtubules (PubMed:<a href="http://www.uniprot.org/citations/18591255" target="\_blank">18591255</a>). Acts as a negative regulator of the kinase activity of VRK1 and VRK2 (PubMed:<a href="http://www.uniprot.org/citations/18617507" target="\_blank">18617507</a>). Enhances AR- mediated transactivation. Transactivation decreases as the poly-Gln length within AR increases (PubMed:<a href="http://www.uniprot.org/citations/10400640" target="\_blank">10400640</a>).

### Cellular Location

Nucleus. Nucleus envelope. Cytoplasm, cytosol Cytoplasm. Melanosome Note=Predominantly nuclear during interphase (PubMed:10679025, PubMed:12194828, PubMed:8421051). Becomes dispersed throughout the cytoplasm during mitosis (PubMed:12194828, PubMed:8421051). Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:17081065).

### Tissue Location

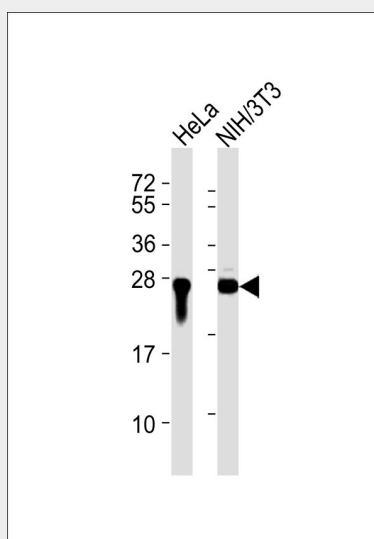
Expressed in a variety of tissues.

### RAN 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 Cytometry](#)
- [Cell Culture](#)

## RAN Antibody - Images



All lanes : Anti-RAN Antibody at 1:8000 dilution Lane 1: HeLa whole cell lysates Lane 2: NIH/3T3 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 24 kDa Blocking/Dilution buffer: 5% NFDm/TBST.

## RAN Antibody - Background

GTP-binding protein involved in nucleocytoplasmic transport. Required for the import of protein into the nucleus and also for RNA export. Involved in chromatin condensation and control of cell cycle (By similarity). The complex with BIRC5/ survivin plays a role in mitotic spindle formation by serving as a physical scaffold to help deliver the RAN effector molecule TPX2 to microtubules. Acts as a negative regulator of the kinase activity of VRK1 and VRK2.

## RAN Antibody - References

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Ren M.,et al.J. Cell Biol. 120:313-323(1993).  
Hsiao P.-W.,et al.J. Biol. Chem. 274:20229-20234(1999).  
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