

## Ran Polyclonal Antibody Catalog # AP72181

### Specification

#### Ran Polyclonal Antibody - Product Information

Application	WB, IHC-P
Primary Accession	<a href="#">P62826</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

#### Ran Polyclonal Antibody - Additional Information

##### Gene ID 5901

##### Other Names

RAN; ARA24; OK/SW-cl.81; GTP-binding nuclear protein Ran; Androgen receptor-associated protein 24; GTPase Ran; Ras-like protein TC4; Ras-related nuclear protein

##### Dilution

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications.

IHC-P~~N/A

##### Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

##### Storage Conditions

-20°C

#### Ran Polyclonal 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, PubMed:<a href="http://www.uniprot.org/citations/9822603" target="\_blank">9822603). 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, PubMed:<a href="http://www.uniprot.org/citations/26272610" target="\_blank">26272610, PubMed:<a href="http://www.uniprot.org/citations/29040603" target="\_blank">29040603, PubMed:<a href="http://www.uniprot.org/citations/7819259" target="\_blank">7819259, PubMed:<a href="http://www.uniprot.org/citations/8636225" target="\_blank">8636225, PubMed:<a href="http://www.uniprot.org/citations/8692944" target="\_blank">8692944, PubMed:<a href="http://www.uniprot.org/citations/8896452" target="\_blank">8896452, PubMed:<a href="http://www.uniprot.org/citations/9351834" target="\_blank">9351834, PubMed:<a href="http://www.uniprot.org/citations/9428644" target="\_blank">9428644, PubMed:<a href="http://www.uniprot.org/citations/9822603" target="\_blank">9822603). 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, PubMed:<a href="http://www.uniprot.org/citations/9351834" target="\_blank">9351834, PubMed:<a href="http://www.uniprot.org/citations/9428644" target="\_blank">9428644). 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). 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, PubMed:<a href="http://www.uniprot.org/citations/29040603" target="\_blank">29040603). Required for normal progress through mitosis (PubMed:<a href="http://www.uniprot.org/citations/12194828" target="\_blank">12194828, PubMed:<a href="http://www.uniprot.org/citations/29040603" target="\_blank">29040603, PubMed:<a href="http://www.uniprot.org/citations/8421051" target="\_blank">8421051). 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). 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). 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).

### Cellular Location

Nucleus. Nucleus envelope. Cytoplasm, cytosol Cytoplasm. Melosome 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 melosome fractions from stage I to stage IV (PubMed:17081065).

### Tissue Location

Expressed in a variety of tissues.

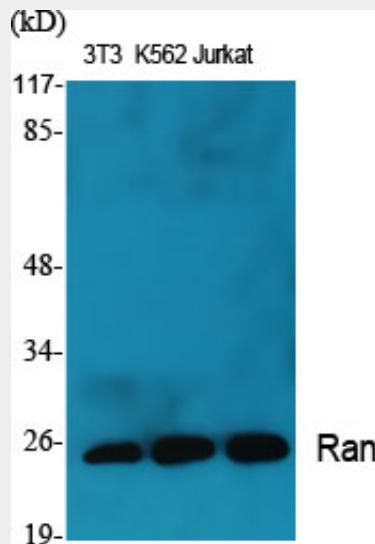
### Ran Polyclonal Antibody - Protocols

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 Polyclonal Antibody - Images



Western Blot analysis of various cells using Ran Polyclonal Antibody diluted at 1:2000

### Ran Polyclonal Antibody - Background

GTPase involved in nucleocytoplasmic transport, participating both to the import and the export from the nucleus of proteins and RNAs (PubMed:10400640, PubMed:8276887, PubMed:8896452, PubMed:8636225, PubMed:8692944, PubMed:9351834, PubMed:9428644, PubMed:9822603, PubMed:26272610). Switches between a cytoplasmic GDP- and a nuclear GTP-bound state by nucleotide exchange and GTP hydrolysis (PubMed:7819259, PubMed:8896452, PubMed:8636225, PubMed:8692944, PubMed:9351834, PubMed:9428644, PubMed:9822603, PubMed:29040603, PubMed:11336674, PubMed:26272610). 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:8896452, PubMed:9351834, PubMed:9428644). 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:20485264). RAN (GTP-bound form) triggers microtubule assembly at mitotic chromosomes and is required for normal mitotic spindle assembly and chromosome segregation (PubMed:10408446, PubMed:29040603). Required for normal progress through mitosis (PubMed:8421051, PubMed:12194828, PubMed:29040603). 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:18591255). Acts as a negative regulator of the kinase activity of VRK1 and VRK2 (PubMed:18617507). Enhances AR-mediated transactivation. Transactivation decreases as the poly-Gln length within AR increases (PubMed:10400640).