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Ran Rabbit pAb

Catalog # AP99482

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P62826
Other Accession	P62826
Reactivity	Rat, Human
Predicted	Pig, Mouse, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	24423
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Ran
Epitope Specificity	120-216/216
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the small GTPase superfamily. Ran family.
SUBUNIT	Monomer. Also forms a complex with CHC1 and interacts with the AR N-terminal poly-Gln region. The interaction with AR is inversely correlated with the poly-Gln length. Part of a complex consisting of RANBP9, Ran, DYRK1B and COPS5. Found in a nuclear export complex with RANBP3 and XPO1. Component of a nuclear export receptor complex composed of KPNB1, Ran, SNUPN and XPO1. Found in a trimeric export complex with SNUPN, Ran and XPO1. Interacts with RANBP10. In case of HIV-1 infection, found in a complex with HIV-1 Rev, RNAs containing a Rev response element (RRE) and XPO1. Found in a complex with HTLV-1 Rex, RANBP3 and XPO1. Interacts in its GTP-bound form with BIRC5/survivin at S and M phases of the cell cycle. Interacts with TERT; the interaction requires hydrogen peroxide-mediated phosphorylation of TERT and transports TERT to the nucleus. Interacts with MAD2L2. Interacts with RANBP10 (By similarity). Interacts with VRK1 and VRK3. Interacts with isoform 1 and isoform 2 of VRK2.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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.

Additional Information

Gene ID	5901
Other Names	ARA24; Gsp1; TC4; RAN_HUMAN; RAN; Androgen receptor-associated protein

	24; GTPase Ran; Ras-like protein TC4; Ras-related nuclear protein; 3.6.5.-; RAN, member RAS oncogene family
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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:10400640, PubMed:17209048, PubMed:26272610, PubMed:27306458, PubMed:8276887, PubMed:8636225, PubMed:8692944, PubMed:8896452, PubMed:9351834, PubMed:9428644, PubMed:9822603). Switches between a cytoplasmic GDP- and a nuclear GTP-bound state by nucleotide exchange and GTP hydrolysis (PubMed:11336674, PubMed:26272610, PubMed:29040603, PubMed:7819259, PubMed:8636225, PubMed:8692944, PubMed:8896452, PubMed:9351834, PubMed:9428644, PubMed: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: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:12194828, PubMed:29040603, PubMed: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: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).
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.

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