

Rabbit RAN Polyclonal Antibody | anti-RAN antibody

RAN Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA322018	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

RAN; Polyclonal Antibody; RAN Antibody; Androgen receptor associated protein 24; Androgen receptor-associated protein 24; ARA 24; ARA24; Gsp1; GTP binding nuclear protein RAN; GTP-binding nuclear protein Ran; GTPase Ran; Guanosine triphosphatase Ran; LPS; OK/SW-cl.81; ran; RAN member RAS oncogene family; RAN_HUMAN; RanGTPase; Ras like protein TC4; Ras related nuclear protein; Ras-like protein TC4; Ras-related nuclear protein; RASL2 8; TC 4; TC4; anti-RAN antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	RAN antibody detects endogenous levels of total RAN
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	128
Applicable Applications for anti-RAN antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human RAN
Subcellular Location	Nucleus. Cytoplasm. Melanosome. Becomes dispersed throughout the cytoplasm during mitosis. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.
Tissue Specificity	Expressed in a variety of tissues.
Predicted Cross Reactivity	Pig, Zebrafish, Bovine, Sheep, Dog, Chicken, Xenopus
Similarity	Pig (100%), Zebrafish (83%), Bovine (100%), Sheep (100%), Dog (100%), Chicken (92%), Xenopus (91%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IF (Immunofluorescence)

AAA322018 staining MCF-7 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemisry)

AAA322018 at 1/100 staining Mouse liver tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA322018 staining LOVO by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of RAN expression in LOVO cells.The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-RAN antibody	Description: 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. Function: 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). Subunit Structure: Monomer. Interacts with RANGAP1, which promotes RAN-mediated GTP hydrolysis (PubMed:7819259, PubMed:9428644). Interacts with KPNB1 (PubMed:8896452, PubMed:9428644, PubMed:10367892). Interaction with KPNB1 inhibits RANGAP1-mediated stimulation of GTPase activity (PubMed:9428644). Interacts with RCC1 which promotes the exchange of RAN-bound GDP by GTP (PubMed:1961752, PubMed:7819259, PubMed:12194828, PubMed:11336674). Interaction with KPNB1 inhibits RCC1-mediated exchange of RAN-bound GDP by GTP (PubMed:8896452). Interacts (GTP-bound form) with TNPO1; the interaction is direct (PubMed:9351834). Interacts with KPNB1 and with TNPO1; both inhibit RAN GTPase activity (PubMed:8896452, PubMed:9428644). Interacts (via C-terminus) with RANBP1, which alleviates the inhibition of RAN GTPase activity (PubMed:7891706, PubMed:8896452, PubMed:9428644, PubMed:11832950). Interacts with RANGRF, which promotes the release of bound guanine nucleotide (PubMed:29040603). RANGRF and RCC1 compete for an overlapping binding site on RAN (PubMed:29040603). Identified in a complex with KPNA2 and CSE1L; interaction with RANBP1 mediates dissociation of RAN from this complex (PubMed:9428644). Interaction with both RANBP1 and KPNA2 promotes dissociation of the complex between RAN and KPNB1 (PubMed:9428644). Identified in a complex composed of RAN, RANGAP1 and RANBP1 (PubMed:16428860). Identified in a complex that contains TNPO1, RAN and RANBP1 (PubMed:9428644). Identified in a nuclear export complex with XPO1 (PubMed:9323133, PubMed:15574331, PubMed:10209022). Found in a nuclear export complex with RANBP3 and XPO1 (PubMed:11571268, PubMed:11425870). Interacts with RANBP2/NUP358 (PubMed:10078529, PubMed:26272610). Interaction with RANBP1 or RANBP2 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). Component of a nuclear export receptor complex composed of KPNB1, RAN, SNUPN and XPO1 (PubMed:10209022, PubMed:19389996). Found in a nuclear export complex with RAN, XPO5 and pre-miRNA (By similarity). Interacts (GTP-bound form) with XPO5 (By similarity). Part of a complex consisting of RANBP9, RAN, DYRK1B and COPS5 (PubMed:14500717). Interacts with RANBP9 and RANBP10 (PubMed:14684163). Interacts in its GTP-bound form with BIRC5/survivin at S and M phases of the cell cycle (PubMed:18591255). Interacts with TERT; the interaction requires hydrogen peroxide-mediated phosphorylation of TERT and transports TERT to the nucleus (PubMed:12808100). Interacts with MAD2L2 (PubMed:19753112). Interacts with VRK1 and VRK3 (PubMed:18617507). Interacts with isoform 1 and isoform 2 of VRK2 (PubMed:18617507). Interacts with NEMP1 and KPNB1 (By similarity). Interacts (GDP-bound form) with NUTF2; regulates RAN nuclear import (PubMed:9822603, PubMed:10679025, PubMed:18266911). Interacts with CAPG; mediates CAPG nuclear import (PubMed:10679025, PubMed:18266911). Interacts with NUP153 (PubMed:18611384, PubMed:19505478). Interacts with the AR N-terminal poly-Gln region; the interaction with AR is inversely correlated with the poly-Gln length (PubMed:10400640). Post-translational Modifications: Acetylation by KAT5 at Lys-134 is increased during mitosis, impairs RANGRF binding and enhances RCC1 binding. Similarity: Belongs to the small GTPase superfamily. Ran family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	663855578
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NCBI GeneID	5901
NCBI Accession #	NP_001287725.1
NCBI GenBank Nucleotide #	NM_001300796.1
UniProt Accession #	P62826; P17080; P28746; P28747; Q6IPB2; Q86V08; Q8NI90; Q9CSP3; Q9CWI7; Q9CZA2; Q9UDJ5; A8K3Z8
Molecular Weight	Observed: 26 kDa Predicted: 25 kDa
NCBI Official Full Name	GTP-binding nuclear protein Ran isoform 2
NCBI Official Synonym Full Names	RAN, member RAS oncogene family
NCBI Official Symbol	RAN
NCBI Official Synonym Symbols	TC4; Gsp1; ARA24
NCBI Protein Information	GTP-binding nuclear protein Ran
UniProt Protein Name	GTP-binding nuclear protein Ran
UniProt Gene Name	RAN
UniProt Synonym Gene Names	ARA241 PublicationManual assertion based on opinion iniRef.4

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/ran-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/322018>