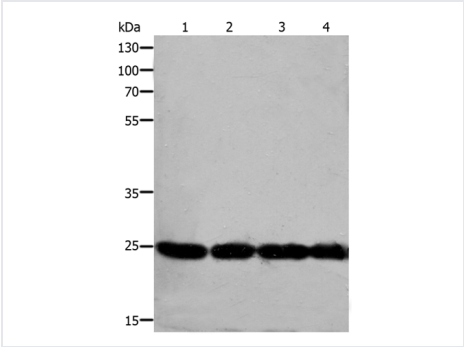
RAN Antibody – Rabbit Polyclonal

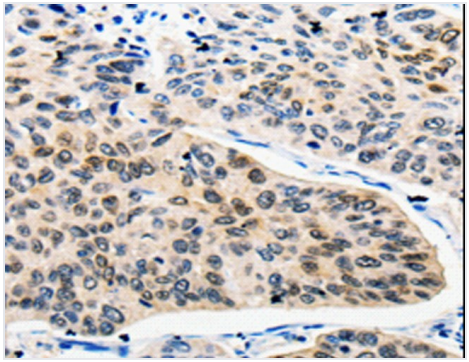
PRODUCT OVERVIEW

Product Name	RAN, Polyclonal Antibody
Full Product Name	RAN Polyclonal Antibody
Product Gene Name	anti-RAN antibody
Product Synonym Names	TC4, Gsp1, ARA24
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Purity/Purification	Antigen affinity purification
Concentration	0.8mg/mL (lot specific)
Preparation and Storage	Store at -20 degree C (regular) and -80 degree C (long term). Avoid freeze / thaw cycles.
Molecular Weight	24,423 Da
OMIM	601179
3D Structure	ModBase 3D Structure for P62826
Immunogen	Synthetic peptide of human RAN
Buffer	PBS with 0.05% sodium azide, 50% glycerol, pH7.3
Product Categories/Family for anti-RAN antibody	Cell Biology
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-RAN antibody	ELISA (EIA), Western Blot (WB), Immunohistochemistry (IHC)
Application Notes for anti-RAN antibody	WB: 1:200-1:1000 IHC: 1:25-1:100
Related Product Information for anti-RAN antibody	RAN (ras-related nuclear protein) is a small GTP binding protein belonging to the RAS superfamily that is essential for the translocation of RNA and proteins through the nuclear pore complex. The RAN protein is also involved in control of DNA synthesis and cell cycle progression. Nuclear localization of RAN requires the presence of regulator of chromosome condensation 1 (RCC1). Mutations in RAN disrupt DNA synthesis. Because of its many functions, it is likely that RAN interacts with several other proteins. RAN regulates formation and organization of the microtubule network independently of its role in the nucleus-cytosol exchange of macromolecules. RAN could be a key signaling molecule regulating microtubule polymerization during mitosis. RCC1 generates a high local concentration of RAN-GTP around chromatin which, in turn, induces the local nucleation of microtubules. RAN is an androgen receptor (AR) coactivator that binds differentially with different lengths of polyglutamine within the androgen receptor. Polyglutamine repeat expansion in the AR is linked to Kennedy's disease (X-linked spinal and bulbar muscular atrophy). RAN coactivation of the AR diminishes with polyglutamine expansion within the AR, and this weak coactivation may lead to partial androgen insensitivity during the development of Kennedy's disease.
Other Notes	Small volumes of anti-RAN antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for RAN purchase	MBS2517633 is an antibody targeting RAN. Also known as RAN Polyclonal Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Western Blot (WB) of anti-RAN antibody
Western Blot analysis of Hela, NIH/3T3 and HepG2 cell, Mouse testis tissue using RAN Polyclonal Antibody at dilution of 1:400



Immunohistochemistry (IHC) of anti-RAN antibody
Immunohistochemistry of paraffin-embedded Human lung cancer using RAN Polyclonal Antibody at dilution of 1:25

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for RAN. It may not necessarily be applicable to this product.

NCBI GI #	47496641
NCBI GeneID	5901
NCBI Accession #	CAG29343.1
UniProt Primary Accession #	P62826
UniProt Secondary Accession #	P17080; P28746; P28747; Q6IPB2; Q86V08; Q8NI90; Q9CSP3; Q9CWI7; Q9CZA2; Q9UDJ5; A8K3Z8
UniProt Related Accession #	P62826; AAB24940
NCBI Official Full Name	RAN, partial
NCBI Official Synonym Full Names	RAN, member RAS oncogene family
NCBI Official Symbol	RAN
NCBI Official Synonym Symbols	TC4; Gsp1; ARA24
UniProt Protein Name	GTP-binding nuclear protein Ran
UniProt Synonym Protein Names	Androgen receptor-associated protein 24; GTPase Ran; Ras-like protein TC4; Ras-related nuclear protein
Protein Family	GTP-binding nuclear protein
UniProt Gene Name	RAN
UniProt Synonym Gene Names	ARA24
UniProt Entry Name	RAN_HUMAN
NCBI Protein Information	GTP-binding nuclear protein Ran; GTPase Ran; OK/SW-cl.81; RanGTPase; androgen receptor-associated protein 24; guanosine triphosphatase Ran; member RAS oncogene family; ras-like protein TC4; ras-related nuclear protein

UniProt Comments for RAN	RAN: a small GTPase belonging to the RAS superfamily that regulates the nucleo-cytoplasmic traffic through the nuclear pore complex, the condensation of chromatin, spindle assembly and cytokinesis, as well as the organization of non-centrosomal microtubules. A major regulator of mitosis and a potential therapeutic target in cancers expressing higher Ras/MEK/ERK and PI3K/Akt/mTORC1 activities. Required for the import of protein into and RNA export from the nucleus. Cycles between the nucleus and cytoplasm in this process. The Ran guanine nucleotide-exchange factor (RanGEF) is nuclear, promoting the GTP-bound state, while the Ran GTPase activating protein (RanGAP) is cytoplasmic, promoting GDP-bound state. RanGDP is imported into the nucleus by nuclear transport factor-2 (NUTF2), where RanGEF catalyses nucleotide exchange and generates RanGTP. RanGTP then binds to transport factors, such as KPNB1 and CAS, and is exported to the cytoplasm, where RanGAP stimulates GTP hydrolysis. Regulates microtubule polymerization during mitosis; micritubule localization of RAN requires the presence of regulator of chromosome condensation 1 (RCC1), a Ran-GEF. RCC1 generates a high local concentration of RAN-GTP around chromatin which, in turn, induces the local nucleation of microtubules. Regulates the formation and organization of the microtubule network independently of its role in the nucleus-cytosol exchange of macromolecules. GTP-Ran interacts with survivin at S and M phases of the cell cycle. Ran-survivin complexes play 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. Interacts with TERT following the tyrosine phosphorylation of TERT induced by H2O2, inducing nuclear export of TERT. Interacts with MAD2L2. Predominantly nuclear during interphase. Becomes dispersed throughout the cytoplasm during mitosis. Protein type: Nuclear export; Motility/polarity/chemotaxis; Nuclear receptor co-regulator; G protein, monomeric, Ran; G protein, monomeric; Cell cycle regulation; G protein Chromosomal Location of Human Ortholog: 12q24.3 Cellular Component: nucleoplasm; recycling endosome; membrane; cytoplasm; melanosome; nuclear pore; cytosol; chromatin; nucleus Molecular Function: GTPase activity; protein domain specific binding; protein binding; GDP binding; androgen receptor binding; GTP binding; transcription coactivator activity; chromatin binding Biological Process: ribosomal small subunit export from nucleus; mitosis; positive regulation of protein binding; viral reproduction; positive regulation of transcription, DNA-dependent; viral infectious cycle; signal transduction; ribosomal large subunit export from nucleus; mitotic spindle organization and biogenesis; protein import into nucleus; cell division; small GTPase mediated signal transduction; androgen receptor signaling pathway; gene expression; protein export from nucleus; actin cytoskeleton organization and biogenesis; DNA metabolic process; spermatid development
Research Articles on RAN	**1.** Towards understanding its molecular mechanism, a 2.9 A resolution crystal structure of human TRN-SR2 complexed with the small GTPase Ran has been determined
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