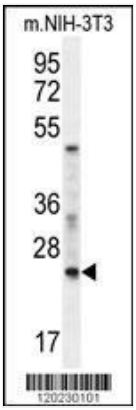
RAN Antibody – Rabbit Polyclonal

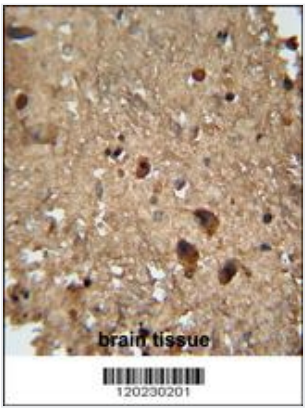
PRODUCT OVERVIEW

Product Name	RAN, Polyclonal Antibody
Full Product Name	RAN, ID (RAN, ARA24, GTP-binding nuclear protein Ran, Androgen receptor-associated protein 24, GTPase Ran, Ras-like protein TC4, Ras-related nuclear protein) (Biotin)
Product Gene Name	anti-RAN antibody
Product Synonym Names	RAN; ARA24; GTP-binding nuclear protein Ran; Androgen receptor-associated protein 24; GTPase Ran; Ras-like protein TC4; Ras-related nuclear protein
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Biotin.
Purity/Purification	Purified by Protein A Affinity Chromatography.
Preparation and Storage	Store product at 4 degree C if to be used immediately within two weeks. For long-term storage, aliquot to avoid repeated freezing and thawing and store at -20 degree C. Aliquots are stable at -20 degree C for 12 months after receipt. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.
Molecular Weight	24,423 Da
Chromosome Location	Chromosome: 12; NC_000012.11 (131356617..131360826). Location: 12q24.3
OMIM	601179
3D Structure	ModBase 3D Structure for P62826
Immunogen	RAN antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 119-148 amino acids from the Central region of human RAN.
Conjugate	Biotin
Note	Preservative Free
Product Categories/Family for anti-RAN antibody	Antibodies; GTPase; Rab; Ras; Rho Proteins
Applications Tested/Suitable for anti-RAN antibody	Flow Cytometry (FC/FACS), ELISA (EIA), Immunohistochemistry (IHC), Western Blot (WB)
Application Notes for anti-RAN antibody	FC/FACS: 1:10-50 ELISA: 1:1,000 IHC: 1:50-100 WB: 1:100-500 Applications are based on unconjugated antibody.

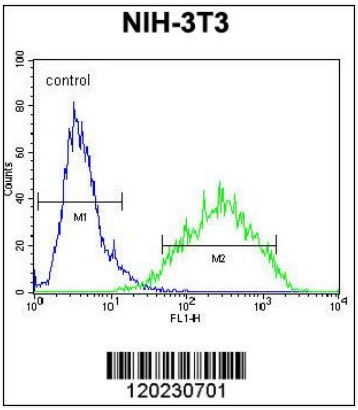
Related Product Information for anti-RAN antibody	RAN (ras-related nuclear protein) is a small GTP binding protein belonging to the RAS superfamily that is essential for the translocation of RNA and proteins through the nuclear pore complex. The RAN protein is also involved in control of DNA synthesis 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.
Product References and Citations for anti-RAN antibody	Kim, J.S., et al. Mol. Carcinog. 49(10):913-921(2010). Liu, C., et al. Mol. Cell. Biol. 30(16):3956-3969(2010). Boni, V., et al. Pharmacogenomics J. (2010). In press: Ly, T.K., et al. J. Biol. Chem. 285(8):5815-5826(2010). Mishra, R.K., et al. Nat. Cell Biol. 12(2):164-169(2010).
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	MBS6340187 is an antibody targeting RAN. Also known as RAN, ID (RAN, ARA24, GTP-binding nuclear protein Ran, Androgen receptor-associated protein 24, GTPase Ran, Ras-like protein TC4, Ras-related nuclear protein) (Biotin). Reactive in Human, Mouse. Host: Rabbit.



Western Blot (WB) of anti-RAN antibody
RAN Antibody (Center) western blot analysis in mouse NIH-3T3 cell line lysates (35ug/lane).This demonstrates the RAN antibody detected the RAN protein (arrow).



Immunohistochemistry (IHC) of anti-RAN antibody
RAN antibody (Center) immunohistochemistry analysis in formalin fixed and paraffin embedded human brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the RAN antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



Flow Cytometry (FC/FACS) of anti-RAN antibody
RAN Antibody (Center) flow cytometric analysis of NIH-3T3 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

ADDITIONAL DETAILS

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

NCBI GI #	5453555
NCBI GeneID	5901
NCBI Accession #	NP_006316.1
UniProt Primary Accession #	P62826
UniProt Secondary Accession #	P17080; P28746; P28747; Q6IPB2; Q86V08; Q8NI90; Q9CSP3; Q9CWI7; Q9CZA2; Q9UDJ5; A8K3Z8
UniProt Related Accession #	P62826; AAB24940
GenBank Nucleotide #	NM_006325.3
NCBI Official Full Name	GTP-binding nuclear protein Ran
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; RanGTPase; GTPase Ran; OK/SW-cl.81; ras-like protein TC4; member RAS oncogene family; ras-related nuclear protein; guanosine triphosphatase Ran; androgen receptor-associated protein 24

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 receptor co-regulator; G protein, monomeric, Ran; G protein; G protein, monomeric; Nuclear export; Motility/polarity/chemotaxis; Cell cycle regulation Chromosomal Location of Human Ortholog: 12q24.3 Cellular Component: nucleoplasm; recycling endosome; membrane; cytoplasm; melanosome; nuclear pore; nucleus; cytosol; chromatin 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; cell division; protein import into nucleus; 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.** Results suggest that Ran is required for and is a potential therapeutic target of Myc-driven cancer progression in both breast and lung cancers.
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