Anti-RAN Antibody (Clone#5D5)

Catalog Number: *M00204-1*

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Basic Information

Product Name	Anti-RAN Antibody (Clone#5D5)
Gene Name	RAN
Source	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Species Reactivity	human, mouse, rat
Tested Application	WB, FCM, ICC/IF
Contents	500 ug/ml antibody with PBS, 0.02% NaN3, 1 mg/ml BSA and 50% glycerol.
Immunogen	E. coli-derived human Ran recombinant protein (Position: A2-L216). Human Ran shares 100% amino acid (aa) sequence identity with both mouse and rat Ran.
Concentration	200ug/ml
Purification	protein G purified.
Observed MW	24 kDa
Dilution Ratios	Western blot (WB): 1:500-2000 Immunocytochemistry/Immunofluorescence (ICC/IF):1:50-400 Flow Cytometry (Fixed): 1:50-200

Storage

12 months from date of receipt，-20℃ as supplied. 6 months 2 to 8℃ after reconstitution. Avoid repeated freezing and thawing.

Background Information

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

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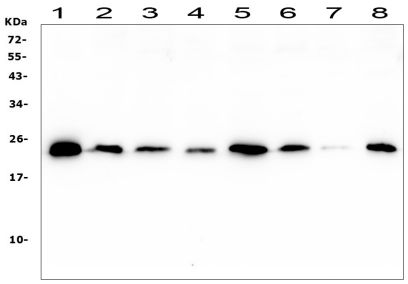
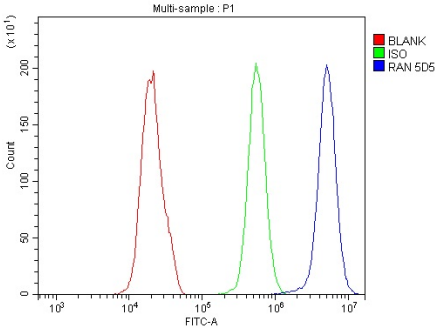
the development of Kennedy's disease.

Selected Validation Data



Western blot analysis of RAN using anti-RAN antibody (M00204-1). The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HL-60 whole cell lysates,
Lane 2: human T-47D whole cell lysates,
Lane 3: human A549 whole cell lysates,
Lane 4: human U2OS whole cell lysates,
Lane 5: human THP-1 whole cell lysates,
Lane 6: human HepG2 whole cell lysates,
Lane 7: human PANC-1 whole cell lysates,
Lane 8: human SW620 whole cell lysates.
After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with mouse anti-RAN antigen affinity purified monoclonal antibody (M00204-1) at a dilution of 1:1000 and probed with a goat anti-mouse IgG-HRP secondary antibody (Catalog # BA1050). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1197). A specific band was detected for RAN at approximately 24 kDa. The expected band size for RAN is at 24 kDa.



Flow Cytometry analysis of PC-3 cells using anti-RAN antibody (M00204-1).
Overlay histogram showing PC-3 cells stained with M00204-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-RAN Antibody (M00204-1) at 1:100 dilution for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG at 1:100 dilution used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank

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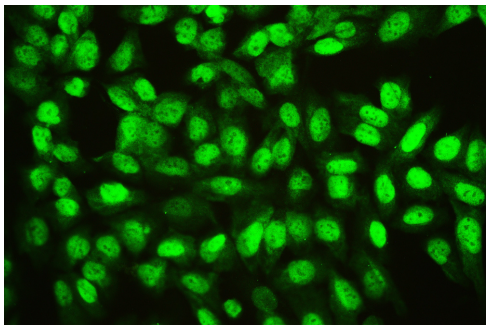
control.



IF analysis of Ran using anti- Ran antibody (M00204-1)
Ran was detected in immunocytochemical section of U20S cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2µg/mL mouse anti- Ran Antibody (M00204-1) overnight at 4°C. DyLight488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.