

# Ran (H-96): sc-20802

## BACKGROUND

The small Ras-related protein Ran, also called TC4, is a nuclear localized GTPase implicated in a diverse array of cellular processes including DNA replication, entry into and exit from mitosis and the transport of RNA and proteins through the nuclear pore complex. Like Ras, active Ran GTP and inactive Ran GDP levels are tightly regulated by guanine nucleotide exchange factors (GEFs) and GTPase activating proteins (GAPs). The abundant GEF, RCC1 (regulator of chromosome condensation 1), increases the rate at which Ran exchanges GDP for GTP. Ran GAP1 opposes the effects of RCC1 by increasing the rate at which Ran hydrolyzes GTP to GDP. A protein designated Ran BP-1 has no intrinsic GAP activity, and functions as a GEF inhibitor deactivating RCC1 and thereby indirectly increasing the ratio of Ran GDP to Ran GTP. The protein Ran BP-2 has been proposed as the Ran GTP docking site at the periphery of the nuclear pore complex.

## CHROMOSOMAL LOCATION

Genetic locus: RAN (human) mapping to 12q24.33; Ran (mouse) mapping to 5 G1.3.

## SOURCE

Ran (H-96) is a rabbit polyclonal antibody raised against amino acids 121-216 mapping at the C-terminus of Ran of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ran (H-96) is available conjugated to agarose (sc-20802 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Ran (H-96) is recommended for detection of Ran of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ran (H-96) is also recommended for detection of Ran in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Ran siRNA (h): sc-36382, Ran siRNA (m): sc-152698, Ran shRNA Plasmid (h): sc-36382-SH, Ran shRNA Plasmid (m): sc-152698-SH, Ran shRNA (h) Lentiviral Particles: sc-36382-V and Ran shRNA (m) Lentiviral Particles: sc-152698-V.

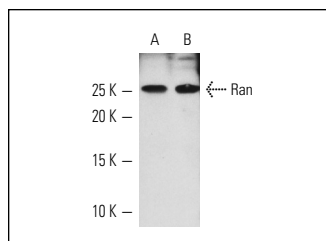
Molecular Weight of Ran: 28 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A-431 nuclear extract: sc-2122 or HeLa nuclear extract: sc-2120.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Ran (H-96): sc-20802. Western blot analysis of Ran expression in phorbol induced HeLa (A) and A-431 (B) nuclear extracts.

## SELECT PRODUCT CITATIONS

1. Liu, H.S., et al. 2010. An unusual function of RON receptor tyrosine kinase as a transcriptional regulator in cooperation with EGFR in human cancer cells. *Carcinogenesis* 31: 1456-1464.
2. Virág, E., et al. 2012. Specific cooperation between Imp- $\alpha$ 2 and Imp- $\beta$ /Ketel in spindle assembly during *Drosophila* early nuclear divisions. *G3* 2: 1-14.
3. Guvenc, H., et al. 2013. Impairment of glioma stem cell survival and growth by a novel inhibitor for Survivin-Ran protein complex. *Clin. Cancer Res.* 19: 631-642.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **Ran (A-7): sc-271376** or **Ran (ARAN1): sc-58467**, our highly recommended monoclonal alternatives to Ran (H-96).