

Ran BP-1 (M-45): sc-28576

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 BP1 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 Ran BP2 protein has been proposed as the Ran GTP docking site at the periphery of the nuclear pore complex.

CHROMOSOMAL LOCATION

Genetic locus: RANBP1 (human) mapping to 22q11.21; Ranbp1 (mouse) mapping to 16 A3.

SOURCE

Ran BP-1 (M-45) is a rabbit polyclonal antibody raised against amino acids 159-203 mapping at the C-terminus of Ran BP-1 of mouse origin.

PRODUCT

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

STORAGE

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

RESEARCH USE

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

APPLICATIONS

Ran BP-1 (M-45) is recommended for detection of Ran BP-1 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).

Suitable for use as control antibody for Ran BP-1 siRNA (h): sc-41848, Ran BP-1 siRNA (m): sc-41849, Ran BP-1 shRNA Plasmid (h): sc-41848-SH, Ran BP-1 shRNA Plasmid (m): sc-41849-SH, Ran BP-1 shRNA (h) Lentiviral Particles: sc-41848-V and Ran BP-1 shRNA (m) Lentiviral Particles: sc-41849-V.

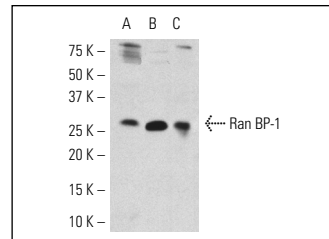
Molecular Weight of Ran BP-1: 28 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

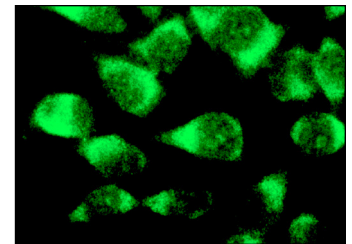
RECOMMENDED SECONDARY REAGENTS

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 BP-1 (M-45): sc-28576. Western blot analysis of Ran BP-1 expression in NIH/3T3 (A) and F9 (B) whole cell lysates and mouse testis tissue extract (C).



Ran BP-1 (M-45): sc-28576. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Marín, M.P., et al. 2008. Chronic ethanol exposure induces alterations in the nucleocytoplasmic transport in growing astrocytes. *J. Neurochem.* 106: 1914-1928.
- Ciciarello, M., et al. 2010. Nuclear reformation after mitosis requires downregulation of the Ran GTPase effector RanBP1 in mammalian cells. *Chromosoma* 119: 651-668.
- Hwang, H.I., et al. 2011. Phosphorylation of Ran-binding protein-1 by Polo-like kinase-1 is required for interaction with Ran and early mitotic progression. *J. Biol. Chem.* 286: 33012-33020.
- Nagai, M., et al. 2011. Mice lacking Ran binding protein 1 are viable and show male infertility. *FEBS Lett.* 585: 791-796.
- Niu, M., et al. 2015. Novel reversible selective inhibitor of nuclear export shows that CRM1 is a target in colorectal cancer cells. *Cancer Biol. Ther.* 16: 1110-1118.


 MONOS
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Try **Ran BP-1 (E-9): sc-514854** or **Ran BP-1 (D-8): sc-374352**, our highly recommended monoclonal alternatives to Ran BP-1 (M-45).