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Ran BP-2 (m): 293T Lysate: sc-122957

BACKGROUND

The small Ras-related protein Ran, also known as 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. Ran-binding protein 2 (Ran BP-2 or Nup358) is a large scaffold cyclophilin-related protein expressed in photoreceptor cells that contains four RanBD1 domains. Localization at cytoplasmic fibrils emanates Ran BP-2 from the nuclear pore complex, which then interacts with Ran-GTPase to support its role in nucleocytoplasmic transport processes. In humans, the Ran BP-2 gene lies in a hot spot for recombination on chromosome 2q. The genetic heterogeneity renders further significance of this genomic region in human disease due to its possible involvement in genetically linked disorders such as juvenile nephronophthisis, congenital hepatic fibrosis and chorioretinal dysplasia. Duplication events that occurred at the 3 Mb distal to Ran BP-2 gave rise to eight new genes encoding RGPD (RanBP2-like), GRIP domain-containing proteins, which are highly homologous to Ran BP-2.

REFERENCES

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2. Mahajan, R., Delphin, C., Guan, T., Gerace, L. and Melchior, F. 1997. A small ubiquitin-related polypeptide involved in targeting Ran GAP1 to nuclear pore complex protein Ran BP-2. *Cell* 88: 97-107.
3. Singh, B.B., Patel, H.H., Roepman, R., Schick, D. and Ferreira, P.A. 1999. The zinc finger cluster domain of Ran BP-2 is a specific docking site for the nuclear export factor, exportin-1. *J. Biol. Chem.* 274: 37370-37378.
4. Villa Braslavsky, C.I., Nowak, C., Gorlich, D., Wittinghofer, A. and Kuhlmann, J. 2000. Different structural and kinetic requirements for the interaction of Ran with the Ran-binding domains from Ran BP-2 and Importin β . *Biochemistry* 39: 11629-11639.
5. Fauser, S., Aslanukov, A., Roepman, R. and Ferreira, P.A. 2001. Genomic organization, expression and localization of murine Ran-binding protein-2 (Ran BP-2) gene. *Mamm. Genome* 12: 406-415.

CHROMOSOMAL LOCATION

Genetic locus: Ranbp2 (mouse) mapping to 10 B4.

PRODUCT

Ran BP-2 (m): 293T Lysate represents a lysate of mouse Ran BP-2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20 $^{\circ}$ C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Ran BP-2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Ran BP-2 antibodies. Recommended use: 10-20 μ l per lane.

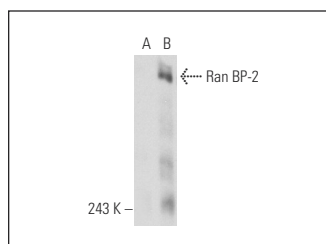
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Ran BP-2 (D-4): sc-74518 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Ran BP-2 expression in Ran BP-2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Ran BP-2 (D-4): sc-74518. Western blot analysis of Ran BP-2 expression in non-transfected: sc-117752 (A) and mouse Ran BP-2 transfected: sc-122957 (B) 293T whole cell lysates.

RESEARCH USE

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