SANTA CRUZ BIOTECHNOLOGY, INC.

Rac 2 (3B8): sc-293429

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A large number of low molecular weight, GTP binding proteins of the Ras superfamily have been identified. These proteins regulate many fundamental processes in all eukaryotic cells such as growth, vesicle traffic and cytoskeletal organization. GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. Two proteins in this family, Rac 1 and Rac 2, are 92% identical and share GTP binding and GTP hydrolysis motifs with other members of the Ras superfamily. Rac 1 is expressed in a large number of different cell types. Rac 2 is primarily expressed only in myeloid cells and has been reported to be a regulatory component of the human neutrophil NADPH oxidase.

REFERENCES

1. Trahey, M. and McCormick, F. 1987. A cytoplasmic protein stimulates normal N-Ras p21 GTPase, but does not affect oncogenic mutants. Science 238: 542-545.
2. Sewell, J.L. and Kahn, R.A. 1988. Sequences of the bovine and yeast ADP-ribosylation factor and comparison to other GTP-binding proteins. Proc. Natl. Acad. Sci. USA 85: 4620-4624.
3. Didsbury, J., et al. 1989. Rac, a novel Ras-related family of proteins that are botulinum toxin substrates. J. Biol. Chem. 264: 16378-16382.
4. Hall, A. 1990. The cellular functions of small GTP-binding proteins. Science 249: 636-640.
5. Xu, G., et al. 1990. The catalytic domain of the neurofibromatosis type 1 gene product stimulates Ras GTPase and complements ira mutants of *S. cerevisiae*. Cell 63: 835-841.
6. Martin, G.A., et al. 1990. The GAP-related domain of the neurofibromatosis type 1 gene product interacts with Ras p21. Cell 63: 843-849.
7. Ballester, R.M., et al. 1990. The NF1 locus encodes a protein functionally related to mammalian GAP and yeast IRA proteins. Cell 63: 851-859.
8. Diekmann, D., et al. 1991. Bcr encodes a GTPase-activating protein for $p21^{rac}$. Nature 351: 400-402.
9. Knaus, U.G., et al. 1991. Regulation of phagocyte oxygen radical production by the GTP-binding protein Rac2. Science 254: 1512-1515.

CHROMOSOMAL LOCATION

Genetic locus: RAC2 (human) mapping to 22q13.1; Rac2 (mouse) mapping to 15 E1.

SOURCE

Rac 2 (3B8) is a mouse monoclonal antibody raised against amino acids 1-192 representing full length Rac 2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rac 2 (3B8) is recommended for detection of Rac 2 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 Rac 2 siRNA (h): sc-29461, Rac 2 siRNA (m): sc-36353, Rac 2 shRNA Plasmid (h): sc-29461-SH, Rac 2 shRNA Plasmid (m): sc-36353-SH, Rac 2 shRNA (h) Lentiviral Particles: sc-29461-V and Rac 2 shRNA (m) Lentiviral Particles: sc-36353-V.

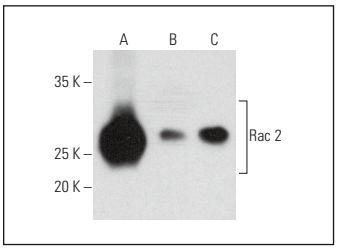
Molecular Weight of Rac 2: 25 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, RAW 264.7 whole cell lysate: sc-2211 or RBL-1 whole cell lysate: sc-364790.

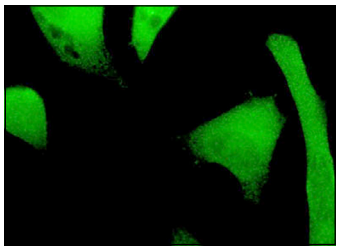
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rac 2 (3B8): sc-293429. Western blot analysis of Rac 2 expression in Jurkat (**A**), RAW 264.7 (**B**) and RBL-1 (**C**) whole cell lysates.



Rac 2 (3B8); sc-293429. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

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.

PROTOCOLS

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