SANTA CRUZ BIOTECHNOLOGY, INC.

Rac 1/2/3/4 (S-18): sc-34259

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. 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. Endogenous, hyperactive Rac3 is present in the highly proliferative human breast cancer-derived cell lines and tumor tissues. Active Rac3 associates with two Rac effector proteins, p21-activated kinase (Pak) and c-Jun N-terminal kinase (JNK) and drives Pak and JNK kinase activities by two separate pathways.

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. Hall, A. 1990. The cellular functions of small GTP-binding proteins. Science 249: 636-640.
3. 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.
4. 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.
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. Diekmann, D., et al. 1991. Bcr encodes a GTPase-activating protein for p21Rac. Nature 351: 400-402.

SOURCE

Rac 1/2/3/4 (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Rac 1 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.

Blocking peptide available for competition studies, sc-34259 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

Rac 1/2/3/4 (S-18) is recommended for detection of Rac1, Rac 2, Rac 3 and Rac 4 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).

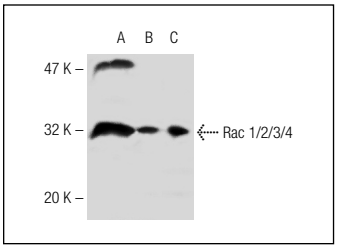
Rac 1/2/3/4 (S-18) is also recommended for detection of Rac1, Rac 2, Rac 3 and Rac 4 in additional species, including equine, canine, bovine, porcine and avian.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, PC-3 cell lysate: sc-2220 or T84 whole cell lysate: sc-364797.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Rac 1/2/3/4 (S-18): sc-34259. Western blot analysis of Rac 1/2/3/4 expression in MIA PaCa-2 (**A**), PC-3 (**B**) and T84 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fortuno, A., et al. 2009. Insulin resistance determines phagocytic nicotinamide adenine dinucleotide phosphate oxidase overactivation in metabolic syndrome patients. J. Hypertens. 27: 1420-1430.