SANTA CRUZ BIOTECHNOLOGY, INC.

Rheb (H-70): sc-33205

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

H-, K- and N-Ras represent the prototype members of a family of small G proteins which are frequently activated to an oncogenic state in a wide variety of human tumors. Activation is due to point mutations at position 12 or 61 within their coding sequence. Such mutations cause these proteins to be constitutively converted to their active GTP-bound rather than the inactive GDP-bound state. The related human R-Ras gene was initially cloned by low stringency hybridization methods. Position 38 or 87 (analogous to positions 12 and 61 in H-Ras) mutants of R-Ras have been shown to be capable of activating oncogenic function. Ras p21 in its active GTP binding state binds to Raf-1, resulting in activation of the MAP kinase signaling cascade. An additional member of the Ras family, Rheb, also interacts with Raf-1. This interaction is potentiated by growth factors and agents that increase cAMP levels.

REFERENCES

1. Lowe, D.G. and Goeddel, D.V. 1987. Heterologous expression and characterization of the human R-Ras gene product. Mol. Cell. Biol. 7: 2845-2856.
2. Barbacid, M. 1987. Ras genes. Annu. Rev. Biochem. 56: 779-827.
3. Lowe, D.G., et al. 1987. Structure of the human and murine R-Ras genes, genes closely related to Ras proto-oncogenes. Cell 48: 137-146.
4. Bos, J.L. 1989. Ras oncogenes in human cancer: a review. Cancer Res. 49: 4682-4689.
5. Saez, R., et al. 1994. Oncogenic activation of human R-Ras by point mutations analogous to those of prototype H-Ras oncogenes. Oncogene 9: 2977-2982.
6. Cox, A.D., et al. 1994. R-Ras induces malignant, but not morphologic, transformation of NIH3T3 cells. Oncogene 9: 3281-3288.
7. Dent, P., et al. 1995. Regulation of Raf-1 and Raf-1 mutants by Ras-dependent and Ras-independent mechanisms *in vitro*. Mol. Cell. Biol. 15: 4125-4135.

CHROMOSOMAL LOCATION

Genetic locus: RHEB (human) mapping to 7q36.1, RHEBL1 (human) mapping to 12q13.12; Rheb (mouse) mapping to 5 A3, RhebI1 (mouse) mapping to 15 F2.

SOURCE

Rheb (H-70) is a rabbit polyclonal antibody raised against amino acids 41-110 mapping within an internal region of Rheb 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.

STORAGE

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

APPLICATIONS

Rheb (H-70) is recommended for detection of Rheb and, to a lesser extent, Rheb-like 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).

Rheb (H-70) is also recommended for detection of Rheb and, to a lesser extent, Rheb-like 1 in additional species, including equine, canine, bovine, porcine and avian.

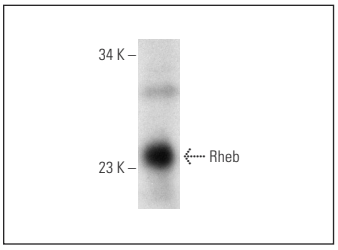
Molecular Weight of Rheb: 21 kDa.

Positive Controls: mouse brain extract: sc-2253, SK-N-SH cell lysate: sc-2410 or SH-SY5Y cell lysate: sc-3812.

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



Rheb (H-70): sc-33205. Western blot analysis of Rheb expression in mouse brain tissue extract.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **Rheb (B-12): sc-271509** or **Rheb (80-R): sc-130398**, our highly recommended monoclonal alternatives to Rheb (H-70). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Rheb (B-12): sc-271509**.