**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 potentiates by growth factors and agents that increase cAMP levels.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: RHEB (human) mapping to 7q36.1, RHEBL1 (human) mapping to 12q13.12; Rheb (mouse) mapping to 5 A3, Rhebl1 (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, Rhe-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, Rhe-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**

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.