SANTA CRUZ BIOTECHNOLOGY, INC.

Raf-1 (PBB-1): sc-81536

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The Power to Question

BACKGROUND

Several serine/threonine protein kinases have been implicated as intermediates in signal transduction pathways. These include ERK/MAP kinases, ribosomal S6 kinase (Rsk) and Raf-1. Raf-1 is a cytoplasmic protein with intrinsic serine/threonine activity. It is broadly expressed in nearly all cell lines tested to date and is the cellular homolog of v-Raf, the product of the transforming gene of the 3611 strain of murine sarcoma virus. The unregulated kinase activity of the v-Raf protein has been associated with transformation and mitogenesis while the activity of Raf-1 is normally suppressed by a regulatory N-terminal domain. Raf-1 is activated in response to activation of a variety of tyrosine kinase receptors as well as in response to pp60v-Src expression. There is accumulating evidence that Ras p21 may play a role in activation of Raf-1 and may play the role of the messenger from membrane tyrosine kinases to Raf-1.

REFERENCES

1. Rapp, U.R., et al. 1983. Structure and biological activation of v-Raf, a unique oncogene transduced by a retrovirus. Proc. Natl. Acad. Sci. USA 80: 4218-4222.
2. Huleihel, M., et al. 1986. Characterization of murine A-Raf, a new oncogene related to the v-Raf oncogene. Mol. Cell. Biol. 6: 2655-2662.
3. Ray, L.B., et al. 1988. Insulin-stimulated microtubule-associated protein kinase is phosphorylated on tyrosine and threonine *in vivo*. Proc. Natl. Acad. Sci. USA 85: 3753-3757.
4. Morrison, D.K., et al. 1988. Signal transduction from membrane to cytoplasm: growth factors and membrane-bound oncogene products increase Raf-1 phosphorylation and associated protein kinase activity. Proc. Natl. Acad. Sci. USA 85: 8855-8859.
5. Pelech, S.L., et al. 1990. Protein kinase cascades in meiotic and mitotic cell cycle control. Biochem. Cell Biol. 68: 1297-1330.
6. Heidecker, G., et al. 1990. Mutational activation of c-Raf-1 and definition of the minimal transforming sequence. Mol. Cell. Biol. 10: 2503-2512.
7. Turner, B., et al. 1991. Interleukin-2 induces tyrosine phosphorylation and activation of p72-74 Raf-1 kinase in a T cell line. Proc. Natl. Acad. Sci. USA 88: 1227-1231.
8. Williams, N.G., et al. 1992. Both p21Ras and pp60v-Src are required, but neither alone is sufficient, to activate the Raf-1 kinase. Proc. Natl. Acad. Sci. USA 89: 2922-2926.

CHROMOSOMAL LOCATION

Genetic locus: RAF1 (human) mapping to 3p25.1.

SOURCE

Raf-1 (PBB-1) is a mouse monoclonal antibody raised against the Raf-1 kinase domain of human origin.

STORAGE

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

PRODUCT

Each vial contains 50 µg IgG_1 in 500 µl PBS with < 0.1% sodium azide, 1% gelatin, PEG and sucrose.

APPLICATIONS

Raf-1 (PBB-1) is recommended for detection of Raf-1 p74 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Raf-1 siRNA (h): sc-29462, Raf-1 shRNA Plasmid (h): sc-29462-SH and Raf-1 shRNA (h) Lentiviral Particles: sc-29462-V.

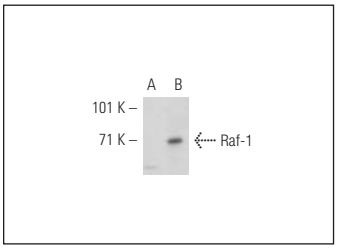
Molecular Weight of Raf-1: 80 kDa.

Positive Controls: Raf-1 (h): 293 Lysate: sc-113164, HeLa whole cell lysate: sc-2200 or HeLa+UV irradiated cell lysate: sc-2221.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

DATA



Raf-1 (PBB-1): sc-81536. Western blot analysis of Raf-1 expression in non-transfected: sc-117752 (**A**) and human Raf-1 transfected: sc-113164 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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