SANTA CRUZ BIOTECHNOLOGY, INC.

KSR-1 (cC-19): sc-9214

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 74 kDa protein with intrinsic kinase activity towards serine/threonine residues and is widely expressed in many tissue types and cell lines. Raf-1 activation is dependent on the small molecular weight GTPase Ras, but the means by which this activation occurs is poorly understood. Two proteins putatively involved in this process are KSR-1 and Tak1. KSR-1 (kinase suppressor of Ras) is a novel Raf-related protein kinase whose function is required for Ras signal transduction. Whether KSR-1 lies directly downstream of Ras or acts in a parallel pathway is not yet known. Tak1 (TGFβ-activated kinase) has been shown to participate in the activation of the MAP kinase family in response to TGFβ stimulation.

REFERENCES

1. 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.
2. 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.
3. 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.
4. Pelech, S.L., et al. 1990. Protein kinase cascades in meiotic and mitotic cell cycle control. Biochem. Cell Biol. 68: 1297-1330.
5. Therrien, M., et al. 1995. KSR, a novel protein kinase required for Ras signal transduction. Cell 83: 879-888.
6. Sundaram, M., et al. 1995. The *C. elegans* KSR-1 gene encodes a novel Raf-related kinase involved in Ras-mediated signal transduction. Cell 83: 889-901.
7. Downward, J. 1995. KSR: a novel player in the Ras pathway. Cell 83: 831-834.
8. Yamaguchi, K., et al. 1995. Identification of a member of the MAPKKK family as a potential mediator of TGFβ signal transduction. Science 270: 2008-2011.

SOURCE

KSR-1 (cC-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of KSR-1 of *C. elegans* 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-9214 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KSR-1 (cC-19) is recommended for detection of KSR-1 of *Caenorhabditis elegans* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of KSR-1: 86 kDa.

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) 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.

SELECT PRODUCT CITATIONS

1. Müller, J., et al. 2000. Identification of B-KSR-1, a novel brain-specific isoform of KSR-1 that functions in neuronal signaling. Mol. Cell. Biol. 20: 5529-5539.

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 or our catalog for detailed protocols and support products.