SANTA CRUZ BIOTECHNOLOGY, INC.

Ksr-1 (E-5): sc-515924

SANTA CRUZ BIOTECHNOLOGY

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 has 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. and Sturgill, T.W. 1988. Insulin-stimulated microtubule-associated protein kinase is phosphorylated on tyrosine and threonine *in vivo*. Proc. Natl. Acad. Sci. USA 85: 3753-3757.

CHROMOSOMAL LOCATION

Genetic locus: KSR1 (human) mapping to 17q11.1; Ksr1 (mouse) mapping to 11 B5.

SOURCE

Ksr-1 (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 240-264 within an internal region of Ksr-1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Ksr-1 (E-5) is recommended for detection of Ksr-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Ksr-1 siRNA (h): sc-35762, Ksr-1 siRNA (m): sc-35763, Ksr-1 siRNA (r): sc-270592, Ksr-1 shRNA Plasmid (h): sc-35762-SH, Ksr-1 shRNA Plasmid (m): sc-35763-SH, Ksr-1 shRNA Plasmid (r): sc-270592-SH, Ksr-1 shRNA (h) Lentiviral Particles: sc-35762-V, Ksr-1 shRNA (m) Lentiviral Particles: sc-35763-V and Ksr-1 shRNA (r) Lentiviral Particles: sc-270592-V.

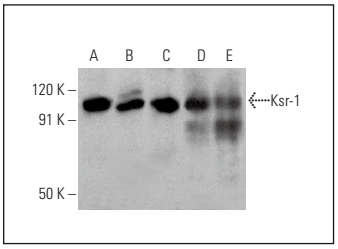
Molecular Weight of Ksr-1: 97 kDa.

Positive Controls: COLO 205 whole cell lysate: sc-364177, A-375 cell lysate: sc-3811 or Hep G2 cell lysate: sc-2227.

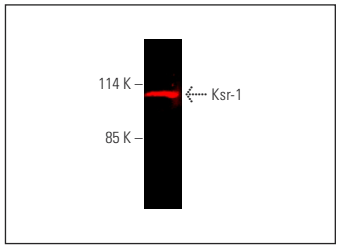
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ksr-1 (E-5): sc-515924. Western blot analysis of Ksr-1 expression in COLO 205 (**A**), A-375 (**B**) and Hep G2 (**C**) whole cell lysates and human brain (**D**) and mouse brain (**E**) tissue extracts.



Ksr-1 (E-5): sc-515924. Near-infrared western blot analysis of Ksr-1 expression in human brain tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Wook Park, S., et al. 2019. A new regulatory mechanism for Raf kinase activation, retinoic acid-bound Crabp1. Sci. Rep. 9: 10929.
2. Kazi, A., et al. 2019. Dual farnesyl and geranylgeranyl transferase inhibitor thwarts mutant KRAS-driven patient-derived pancreatic tumors. Clin. Cancer Res. 25: 5984-5996.
3. Parvathaneni, S., et al. 2021. Calmodulin influences MAPK signaling by binding KSR1. J. Biol. Chem. 296: 100577.
4. Martín-Vega, A., et al. 2023. Scaffold coupling: ERK activation by trans-phosphorylation across different scaffold protein species. Sci. Adv. 9: eadd7969.

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 for detailed protocols and support products.