SANTA CRUZ BIOTECHNOLOGY, INC.

K-Ras-2A (B-12): sc-518124

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mammalian Ras (also designated v-Ha-Ras, Harvey rat sarcoma viral oncogene homolog, HRAS1, K-Ras, N-Ras, RASH1 or c-bas/has) gene family consists of the Harvey and Kirsten Ras genes (c-H-Ras1 and c-K-Ras2), an inactive pseudogene of each (c-H-Ras2 and c-K-Ras1) and the N-Ras gene. The three Ras oncogenes, H-Ras, K-Ras and N-Ras, encode proteins with GTP/GDP binding and GTPase activity. Ras proteins alternate between an inactive form bound to GDP and an active form bound to GTP, activated by a guanine nucleotide-exchange factor (GEF) and inactivated by a GTPase-activating protein (GAP). Ras nomenclature originates from the characterization of human DNA sequences homologous to cloned DNA fragments containing oncogenic sequences of a type C mammalian retrovirus, the Harvey strain of murine sarcoma virus (HaMSV), derived from the rat. Under normal conditions, Ras family members influence cell growth and differentiation events in a subcellular membrane compartmentalization-based signaling system. Oncogenic Ras can deregulate processes that control both cell proliferation and apoptosis. The Ras superfamily of GTP hydrolysis-coupled signal transduction relay proteins can be subclassified into Ras, Rho, Rab and ARF families.

REFERENCES

1. Wong-Staal, F., Dalla-Favera, R., Franchini, G., Gelmann, E.P., Gallo, R.C. 1981. Three distinct genes in human DNA related to the transforming genes of mammalian sarcoma retroviruses. Science 213: 226-228.
2. Cox, A.D. and Der, C.J. 2003. The dark side of Ras: regulation of apoptosis. Oncogene 22: 8999-9006.
3. Colicelli, J. 2004. Human Ras superfamily proteins and related GTPases. Sci. STKE 2004: RE13.

CHROMOSOMAL LOCATION

Genetic locus: KRAS (human) mapping to 12p12.1; Kras (mouse) mapping to 6 G3.

SOURCE

K-Ras-2A (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 159-183 at the C-terminus of K-Ras-2A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

K-Ras-2A (B-12) is available conjugated to agarose (sc-518124 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518124 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518124 PE), fluorescein (sc-518124 FITC), Alexa Fluor® 488 (sc-518124 AF488), Alexa Fluor® 546 (sc-518124 AF546), Alexa Fluor® 594 (sc-518124 AF594) or Alexa Fluor® 647 (sc-518124 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518124 AF680) or Alexa Fluor® 790 (sc-518124 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

K-Ras-2A (B-12) is recommended for detection of K-Ras-2A p21 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 K-Ras siRNA (h): sc-35731, K-Ras siRNA (m): sc-43876, K-Ras shRNA Plasmid (h): sc-35731-SH, K-Ras shRNA Plasmid (m): sc-43876-SH, K-Ras shRNA (h) Lentiviral Particles: sc-35731-V and K-Ras shRNA (m) Lentiviral Particles: sc-43876-V.

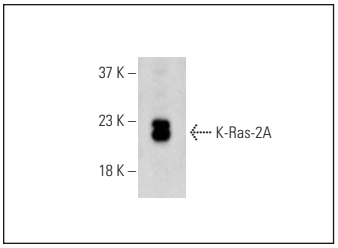
Molecular Weight of K-Ras-2A: 24 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

RECOMMENDED SECONDARY 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 A/G PLUS-Agarose: sc-2003 (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



K-Ras-2A (B-12): sc-518124. Western blot analysis of K-Ras-2A expression in KNRK whole cell lysate. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

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.