SANTA CRUZ BIOTECHNOLOGY, INC.

H-Ras (C-20): sc-520

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.

CHROMOSOMAL LOCATION

Genetic locus: HRAS (human) mapping to 11p15.5; Hras1 (mouse) mapping to 7 F5.

SOURCE

H-Ras (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of H-Ras of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

H-Ras (C-20) is recommended for detection of H-Ras p21 of mouse, rat, human and *Xenopus laevis* 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).

H-Ras (C-20) is also recommended for detection of H-Ras p21 in additional species, including equine, canine and avian.

Suitable for use as control antibody for H-Ras siRNA (h): sc-29340, H-Ras siRNA (m): sc-29341, H-Ras shRNA Plasmid (h): sc-29340-SH, H-Ras shRNA Plasmid (m): sc-29341-SH, H-Ras shRNA (h) Lentiviral Particles: sc-29340-V and H-Ras shRNA (m) Lentiviral Particles: sc-29341-V.

Molecular Weight of H-Ras: 21 kDa.

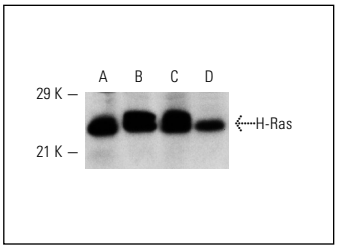
RESEARCH USE

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

STORAGE

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

DATA



H-Ras (C-20): sc-520. Western blot analysis of H-Ras expression in HeLa (**A**), Jurkat (**B**), KNRK (**C**) and NIH/3T3 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hochholdinger, F., et al. 1999. Novel membrane-targeted ERK 1 and ERK 2 chimeras which act as dominant negative, isotype-specific mitogen-activated protein kinase inhibitors of Ras-Raf-mediated transcriptional activation of c-Fos in NIH/3T3 cells. Mol. Cell. Biol. 19: 8052-8065.
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3. Miluzio, A., et al. 2011. Impairment of cytoplasmic eIF6 activity restricts lymphomagenesis and tumor progression without affecting normal growth. Cancer Cell 6: 765-775.
4. Calvo, F., et al. 2011. RasGRF suppresses Cdc42-mediated tumour cell movement, cytoskeletal dynamics and transformation. Nat. Cell Biol. 13: 819-826.
5. Periyasamy-Thandavan, S., et al. 2012. Insulin-like growth factor 1 attenuates antiestrogen- and antiprogestin-induced apoptosis in ER^+ breast cancer cells by MEK1 regulation of the BH3-only pro-apoptotic protein Bim. Breast Cancer Res. 14: R52.
6. Ferreira, L., et al. 2012. Functional specific roles of H-ras and N-ras. A proteomic approach using knockout cell lines. Electrophoresis 33: 1385-1396.
7. Lee, J.S., et al. 2012. Generation of cancerous neural stem cells forming glial tumor by oncogenic stimulation. Stem Cell Rev. 8: 532-545.
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