SANTA CRUZ BIOTECHNOLOGY, INC.

H-Ras (238): sc-34

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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: HRAS (human) mapping to 11p15.5, KRAS (human) mapping to 12p12.1; Hras1 (mouse) mapping to 7 F5, Kras (mouse) mapping to 6 G3.

SOURCE

H-Ras (238) is a rat monoclonal antibody raised against a recombinant protein.

PRODUCT

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

H-Ras (238) is available conjugated to agarose (sc-34 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

APPLICATIONS

H-Ras (238) is recommended for detection of H-Ras p21 and K-Ras p21 of mouse, rat and human 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

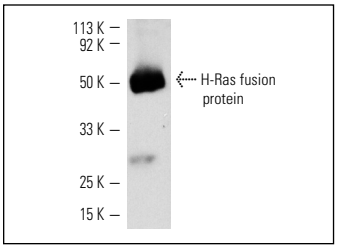
Molecular Weight of H-Ras: 21 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

STORAGE

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

DATA



Western blot analysis of human recombinant H-Ras fusion protein immunoprecipitated with H-Ras (238): sc-34 and detected with H-Ras (C-20): sc-520.

SELECT PRODUCT CITATIONS

1. Jung, J.U., et al. 1995. Association of the viral oncoprotein STP-C488 with cellular Ras. Mol. Cell. Biol. 15: 6506-6512.
2. Enan, E., et al. 1998. Mechanisms of gender-specific TCDD-induced toxicity in Guinea pig adipose tissue. Reprod. Toxicol. 12: 357-369.
3. Park, M., et al. 2000. Constitutive activation of cyclin B1-associated Cdc2 kinase overrides p53-mediated G_2-M arrest. Cancer Res. 60: 542-545.
4. Merlo, J.J., et al. 2001. Herpesvirus saimiri oncoproteins Tip and StpC synergistically stimulate NFκB activity and Interleukin-2 gene expression. Virology 279: 325-338.
5. Huang, Y.Z., et al. 2003. Erbin suppresses the MAP kinase pathway. J. Biol. Chem. 278: 1108-1114.
6. Dhaka, A., et al. 2003. The Ras effector RIN1 modulates the formation of aversive memories. J. Neurosci. 23: 748-757.
7. Kühne, C., et al. 2003. Repair of a minimal DNA double-strand break by NHEJ requires DNA-PK_{CS} and is controlled by the ATM/ATR checkpoint. Nucleic Acids Res. 31: 7227-7237.
8. Forester, C.M., et al. 2007. Control of mitotic exit by PP2A regulation of Cdc25C and Cdk1. Proc. Natl. Acad. Sci. USA 104: 19867-19872.
9. Lo, B.K., et al. 2010. CXCR3/ligands are significantly involved in the tumorigenesis of basal cell carcinomas. Am. J. Pathol. 176: 2435-2446.
10. Zeng, W., et al. 2014. αNAC inhibition of the FADD-JNK axis plays anti-apoptotic role in multiple cancer cells. Cell Death Dis. 5: e1282.

RESEARCH USE

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

CONJUGATES

See **H-Ras (259): sc-35** for H-Ras antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.