SANTA CRUZ BIOTECHNOLOGY, INC.

H-Ras (F235): sc-29

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 (F235) is a mouse monoclonal antibody raised against a recombinant H-Ras protein.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

H-Ras (F235) is recommended for detection of H-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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for H-Ras siRNA (h): sc-29340, H-Ras siRNA (m): sc-29341, H-Ras siRNA (r): sc-108004, H-Ras shRNA Plasmid (h): sc-29340-SH, H-Ras shRNA Plasmid (m): sc-29341-SH, H-Ras shRNA Plasmid (r): sc-108004-SH, H-Ras shRNA (h) Lentiviral Particles: sc-29340-V, H-Ras shRNA (m) Lentiviral Particles: sc-29341-V and H-Ras shRNA (r) Lentiviral Particles: sc-108004-V.

Molecular Weight of H-Ras: 21 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

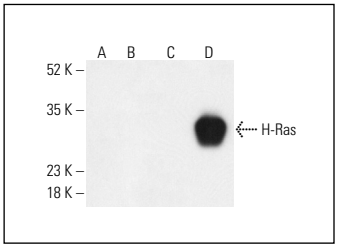
RESEARCH USE

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

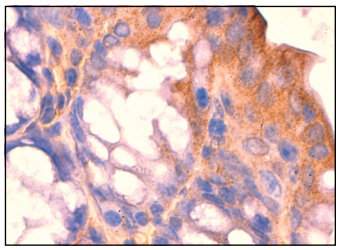
STORAGE

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

DATA



H-Ras (F235): sc-29. Western blot analysis of H-Ras expression in non-transfected 293T: sc-117752 (**A**), human K-Ras transfected 293T: sc-111225 (**B**), human N-Ras transfected 293T (**C**) and human H-Ras transfected 293T (**D**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408. Note lack of reactivity with human K-Ras in lane **B** and human N-Ras in lane **C**.



H-Ras (F235): sc-29. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse colon tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Boldogh, I., et al. 1994. Alteration in the coding potential and expression of H-Ras in human cytomegalovirus-transformed cells. Intervirology 37: 321-329.
2. Park, Y.H., et al. 2016. Peroxiredoxin II promotes hepatic tumorigenesis through cooperation with Ras/Forkhead box M1 signaling pathway. Oncogene 35: 3503-3513.
3. Takahashi, A., et al. 2017. Exosomes maintain cellular homeostasis by excreting harmful DNA from cells. Nat. Commun. 8: 15287.
4. Zheng, Z.Y., et al. 2018. Induction of N-Ras degradation by flunarizine-mediated autophagy. Sci. Rep. 8: 16932.
5. Liu, Z., et al. 2019. Tn antigen promotes human colorectal cancer metastasis via H-Ras mediated epithelial-mesenchymal transition activation. J. Cell. Mol. Med. 23: 2083-2092.
6. Rostami, A., et al. 2020. Senescence, necrosis, and apoptosis govern circulating cell-free DNA release kinetics. Cell Rep. 31: 107830.
7. Igelmann, S., et al. 2021. A hydride transfer complex reprograms NAD metabolism and bypasses senescence. Mol. Cell 81: 3848-3865.e19.
8. Sugawara, S., et al. 2022. RNaseH2A downregulation drives inflammatory gene expression via genomic DNA fragmentation in senescent and cancer cells. Commun. Biol. 5: 1420.
9. Nair, A., et al. 2023. CD40 induces selective routing of Ras isoforms to subcellular compartments. J. Cell Commun. Signal. 17: 1009-1021.

CONJUGATES

See **H-Ras (259): sc-35** for H-Ras antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.