SANTA CRUZ BIOTECHNOLOGY, INC.

H-Ras (M90): sc-53959

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, which is 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; Hras (mouse) mapping to 7 F5.

SOURCE

H-Ras (M90) is a mouse monoclonal antibody raised against recombinant H-Ras protein of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

H-Ras (M90) is available conjugated to agarose (sc-53959 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53959 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53959 PE), fluorescein (sc-53959 FITC), Alexa Fluor® 488 (sc-53959 AF488), Alexa Fluor® 546 (sc-53959 AF546), Alexa Fluor® 594 (sc-53959 AF594) or Alexa Fluor® 647 (sc-53959 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53959 AF680) or Alexa Fluor® 790 (sc-53959 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

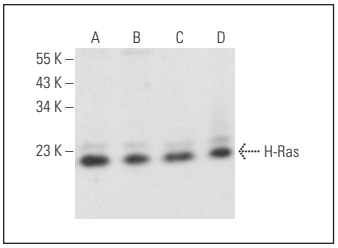
H-Ras (M90) is recommended for detection of H-Ras p21 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

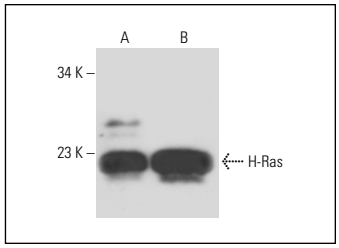
Molecular Weight of H-Ras: 21 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

DATA



H-Ras (M90): sc-53959. Western blot analysis of H-Ras expression in K-562 (**A**), Jurkat (**B**), NIH/3T3 (**C**) and KNRK (**D**) whole cell lysates.



H-Ras (M90): sc-53959. Western blot analysis of H-Ras expression in BJ (**A**) and human PBL (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bhanot, H., et al. 2010. Induction of nonapoptotic cell death by activated Ras requires inverse regulation of Rac1 and ARF6. Mol. Cancer Res. 8: 1358-1374.
2. Molinaro, A., et al. 2019. Insulin-driven PI3K-Akt signaling in the hepatocyte is mediated by redundant PI3Kα and PI3Kβ activities and is promoted by Ras. Cell Metab. 29: 1400-1409.e5.
3. Tonini, C., et al. 2020. Maternal dietary exposure to low-dose bisphenol A affects metabolic and signaling pathways in the brain of rat fetuses. Nutrients 12: 1448.
4. Tonini, C., et al. 2021. Prenatal exposure to BPA: the effects on hepatic lipid metabolism in male and female rat fetuses. Nutrients 13: 1970.
5. Parente, M., et al. 2022. Brain cholesterol biosynthetic pathway is altered in a preclinical model of fragile X syndrome. Int. J. Mol. Sci. 23: 3408.
6. You, F., et al. 2024. The potential of twendee X® as a safe antioxidant treatment for systemic sclerosis. Int. J. Mol. Sci. 25: 3064.

RESEARCH USE

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