SANTA CRUZ BIOTECHNOLOGY, INC.

N-Ras (C-20): sc-519

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: NRAS (human) mapping to 1p13.2; Nras (mouse) mapping to 3 F2.2.

SOURCE

N-Ras (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of N-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-519 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

N-Ras (C-20) is recommended for detection of N-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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). N-Ras (C-20) is also recommended for detection of N-Ras p21 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for N-Ras siRNA (h): sc-36004, N-Ras siRNA (m): sc-36005, N-Ras shRNA Plasmid (h): sc-36004-SH, N-Ras shRNA Plasmid (m): sc-36005-SH, N-Ras shRNA (h) Lentiviral Particles: sc-36004-V and N-Ras shRNA (m) Lentiviral Particles: sc-36005-V.

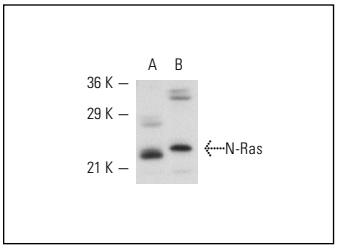
Molecular Weight of N-Ras: 21 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, KNRK whole cell lysate: sc-2214 or A-431 whole cell lysate: sc-2201.

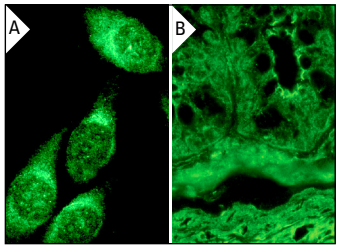
STORAGE

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

DATA



N-Ras (C-20): sc-519. Western blot analysis of N-Ras expression in HeLa (**A**) and KNRK (**B**) whole cell lysates.



N-Ras (C-20): sc-519. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunofluorescence staining of normal mouse intestine frozen section showing membrane and cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Lerner, E.C., et al. 1997. Inhibition of the prenylation of K-Ras, but not H- or N-Ras, is highly resistant to CAAX peptidomimetics and requires both a farnesyltransferase and a geranylgeranyltransferase I inhibitor in human tumor cell lines. Oncogene 15: 1283-1288.
2. Fuentes-Calvo, I., et al. 2010. Analysis of K-Ras nuclear expression in fibroblasts and mesangial cells. PLoS ONE 5: e8703.
3. Yap, M.C., et al. 2010. Rapid and selective detection of fatty acylated proteins using ω-alkynyl-fatty acids and click chemistry. J. Lipid Res. 51: 1566-1580.
4. Heidorn, S.J., et al. 2010. Kinase-dead BRAF and oncogenic Ras cooperate to drive tumor progression through CRAF. Cell 140: 209-221.
5. Dhurandhar, E.J., et al. 2011. E4orf1: a novel ligand that improves glucose disposal in cell culture. PLoS ONE 6: e23394.
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. Bunda, S., et al. 2015. Inhibition of SHP2-mediated dephosphorylation of Ras suppresses oncogenesis. Nat. Commun. 6: 8859.

RESEARCH USE

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