SANTA CRUZ BIOTECHNOLOGY, INC.

H-Ras (A-18): sc-32025

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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., Dalla-Favera, R., Franchini, G., Gelmann, E.P. and Gallo, R.C. 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.
3. Colicelli, J. 2004. Human Ras superfamily proteins and related GTPases. Sci. STKE 2004: RE13.
4. Weber, M.J. and Gioeli, D. 2004. Ras signaling in prostate cancer progression. J. Cell. Biochem. 91: 13-25.
5. Giehl, K. 2005. Oncogenic Ras in tumor progression and metastasis. Biol. Chem. 386: 193-205.
6. Hancock, J.F. and Parton, R.G. 2005. Ras plasma membrane signaling platforms. Biochem. J. 389: 1-11.
7. Quatela, S.E. and Philips, M.R. 2006. Ras signaling on the Golgi. Curr. Opin. Cell Biol. 18: 162-167.
8. Mor, A. and Philips, M.R. 2006. Compartmentalized Ras/MAPK signaling. Annu. Rev. Immunol. 24: 771-800.

CHROMOSOMAL LOCATION

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

SOURCE

H-Ras (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of H-Ras of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32025 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

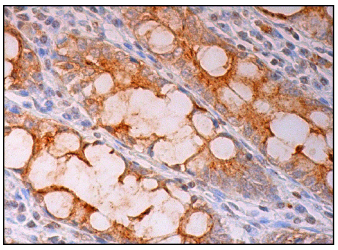
H-Ras (A-18) is recommended for detection of H-Ras p21 and, to a lesser extent, K-Ras p21 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including 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).

H-Ras (A-18) is also recommended for detection of H-Ras p21 and, to a lesser extent, K-Ras p21 in additional species, including equine, canine, bovine and avian.

Molecular Weight of H-Ras: 21 kDa.

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

DATA



H-Ras (A-18): sc-32025. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

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 or our catalog for detailed protocols and support products.