SANTA CRUZ BIOTECHNOLOGY, INC.

E-Ras (Q-20): sc-51079

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ras-encoded family of proteins bind to GDP and to GTP with high affinity. They possess a low level of intrinsic GTPase activity that can be stimulated more than 100-fold by interaction with cytosolic GTPase activating protein (GAP). Ras family members include H-Ras, K-Ras, N-Ras, M-Ras, R-Ras, E-Ras, Rheb, TC 21, RASL11B and Rad GTPase. H-Ras and K-Ras were first identified as oncogenes of acutely transforming RNA tumor viruses. Subsequently, mutated Ras genes have been found in many human tumors, providing evidence for a common genetic target in cancer. In mammals, a variety of extracellular growth factors that act through protein tyrosine kinase receptors, such as insulin, platelet-derived growth factor and nerve growth factor, require Ras to exert their effects. Embryonic stem cell-expressed Ras (E-Ras) is a 277 amino acid protein that localizes to the cytoplasmic membrane and shares 43%, 46% and 47% identity with H-Ras, K-Ras and N-Ras, respectively. E-Ras contains five highly conserved domains essential for small G proteins and a CAAX motif.

REFERENCES

1. Miyoshi, J., Kagimoto, M., Soeda, E. and Sakaki, Y. 1984. The human c-Ha-Ras2 is a processed pseudogene inactivated by numerous base substitutions. Nucleic Acids Res. 12: 1821-1828.
2. Bauer, P.I., Mendeleyeva, J., Kirsten, E., Comstock, J.A., Hakam, A., Buki, K.G. and Kun, E. 2002. Anticancer action of 4-iodo-3-nitrobenzamide in combination with buthionine sulfoximine: inactivation of poly(ADP-ribose) polymerase and tumor glycolysis and the appearance of a poly(ADP-ribose) polymerase protease. Biochem. Pharmacol. 63: 455-462.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300437. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Takahashi, K., Mitsui, K. and Yamanaka, S. 2003. Role of E-Ras in promoting tumour-like properties in mouse embryonic stem cells. Nature 423: 541-545.
5. Kameda, T. and Thomson, J.A. 2005. Human E-Ras gene has an upstream premature polyadenylation signal that result in a truncated, noncoding transcript. Stem Cells 23: 1535-1540.

CHROMOSOMAL LOCATION

Genetic locus: ERAS (human) mapping to Xp11.23; Eras (mouse) mapping to X A1.1.

SOURCE

E-Ras (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of E-Ras of human origin.

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-51079 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

E-Ras (Q-20) is recommended for detection of E-Ras of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for E-Ras siRNA (h): sc-60564.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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