SANTA CRUZ BIOTECHNOLOGY, INC.

R-Ras (C-8): sc-166221

BACKGROUND

H-, K- and N-Ras represent the prototype members of a family of small G proteins that are frequently activated to an oncogenic state in a wide variety of human tumors. Activation is due to point mutations at either position 12 or 61 within their coding sequence. Such mutations cause these proteins to be constitutively converted to their active, rather than the inactive, GDP-bound state. The related human R-Ras gene was initially cloned by low stringency hybridization methods. The R-Ras protein has been shown to interact with the Bcl-2 gene product involved in a signaling pathway that intervenes with apoptosis. Positions 38 and 87 (analogous to positions 12 and 61 in H-Ras) mutants of R-Ras have been shown to be capable of activating oncogenic function. Data has been obtained indicating that R-Ras may exert its biological effect by means of modulating the activity of the Raf-1 kinase on its direct downstream effectors.

REFERENCES

1. Barbacid, M. 1987. Ras genes. Annu. Rev. Biochem. 56: 779-827.
2. Lowe, D.G., et al. 1987. Structure of the human and murine R-Ras genes, novel genes closely related to Ras proto-oncogenes. Cell 48: 137-146.
3. Lowe, D.G. and Goeddel, D.V. 1987. Heterologous expression and characterization of the human R-Ras gene product. Mol. Cell. Biol. 7: 2845-2856.
4. Bos, J.L. 1989. Ras oncogenes in human cancer: a review. Cancer Res. 49: 4682-4689.

CHROMOSOMAL LOCATION

Genetic locus: RRAS (human) mapping to 19q13.33; Rras (mouse) mapping to 7 B4.

SOURCE

R-Ras (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 49-82 within an internal region of R-Ras 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.

R-Ras (C-8) is available conjugated to agarose (sc-166221 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166221 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166221 PE), fluorescein (sc-166221 FITC), Alexa Fluor® 488 (sc-166221 AF488), Alexa Fluor® 546 (sc-166221 AF546), Alexa Fluor® 594 (sc-166221 AF594) or Alexa Fluor® 647 (sc-166221 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166221 AF680) or Alexa Fluor® 790 (sc-166221 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166221 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

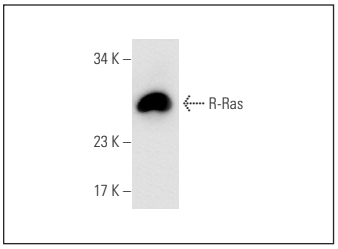
R-Ras (C-8) is recommended for detection of R-Ras p23 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for R-Ras siRNA (h): sc-36336, R-Ras siRNA (m): sc-36337, R-Ras shRNA Plasmid (h): sc-36336-SH, R-Ras shRNA Plasmid (m): sc-36337-SH, R-Ras shRNA (h) Lentiviral Particles: sc-36336-V and R-Ras shRNA (m) Lentiviral Particles: sc-36337-V.

Molecular Weight of R-Ras: 28 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, Hs68 cell lysate: sc-2230 or HeLa whole cell lysate: sc-2200.

DATA



R-Ras (C-8): sc-166221. Western blot analysis of R-Ras expression in Hs68 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Wang, Q., et al. 2011. Focal adhesions and Ras are functionally and spatially integrated to mediate IL-1 activation of ERK. FASEB J. 25: 3448-3464.
2. Takino, J.I., et al. 2019. The inhibition of Bax activation-induced apoptosis by RasGRP2 via R-Ras-PI3K-Akt signaling pathway in the endothelial cells. Sci. Rep. 9: 16717.
3. Lee, S.H. and Lee, S. 2019. Change of Ras and its guanosine triphosphatases (GTPases) during development and regression in bovine corpus luteum. Theriogenology 144: 16-26.
4. Raza, A., et al. 2019. km23-1/DYNLRB1 regulation of MEK/ERK signaling and R-Ras in invasive human colorectal cancer cells. Cell Biol. Int. E-published.

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.