SANTA CRUZ BIOTECHNOLOGY, INC.

RASSF1 (A-2): sc-515949

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Activated Ras proteins may induce senescence, apoptosis and terminal differentiation, though they are often associated with stimulating growth and transformation. The Ras association domain family 1 (RASSF1) gene is located at the human lung tumor suppressor locus 3p21.31 that consists of two major alternative transcripts, RASSF1A and RASSF1C. RASSF1 binds Ras in a GTP-dependent manner, both *in vivo* and *in vitro*. Activated Ras enhances and dominant negative Ras inhibits cell death induced by transient transfection of RASSF1 into 293-T cells, suggesting that RASSF1 tumor suppressor may serve as a Ras effector that mediates the apoptotic effects of oncogenic Ras. RASSF1A undergoes epigenetic inactivation in lung and breast cancers through hypermethylation of the CpG island of its promoter region. Mutant RASSF1A has significantly reduced growth suppression activity. Thus, RASSF1A is a potential tumor suppressor gene that plays an important role in a variety of tumor pathogenesis.

REFERENCES

1. Vos, M.D., et al. 2000. Ras uses the novel tumor suppressor RASSF1 as an effector to mediate apoptosis. J. Biol. Chem. 275: 35669-35672.
2. Dammann, R., et al. 2000. Epigenetic inactivation of a Ras association domain family protein from the lung tumour suppressor locus 3p21.3. Nat. Genet. 25: 315-319.
3. Agathanggelou, A., et al. 2001. Methylation associated inactivation of RASSF1A from region 3p21.3 in lung, breast and ovarian tumors. Oncogene 20: 1509-1518.
4. Dammann, R., et al. 2001. The CpG island of the novel tumor suppressor gene RASSF1A is intensely methylated in primary small cell lung carcinomas. Oncogene 20: 3563-3567.
5. Burbee, D.G., et al. 2001. Epigenetic activation of RASSF1A in lung and breast cancers and malignant phenotype suppression. J. Natl. Cancer Inst. 93: 691-699.
6. Dreijerink, K., et al. 2001. The candidate tumor suppressor gene, RASSF1A, from human chromosome 3p21.3 is involved in kidney tumorigenesis. Proc. Natl. Acad. Sci. USA 98: 7504-7509.

CHROMOSOMAL LOCATION

Genetic locus: RASSF1 (human) mapping to 3p21.31.

SOURCE

RASSF1 (A-2) is a mouse monoclonal antibody raised against amino acids 1-65 mapping at the N-terminus of RASSF1 isoform A of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

RASSF1 (A-2) is recommended for detection of RASSF1A, RASSF1D, RASSF1E, RASSF1F and RASSF1G of 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).

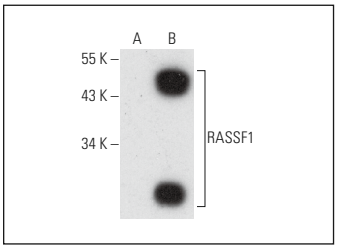
Molecular Weight of RASSF1: 40 kDa.

Positive Controls: human RASSF1 transfected HEK293T whole cell lysate or SW480 cell lysate: sc-2219.

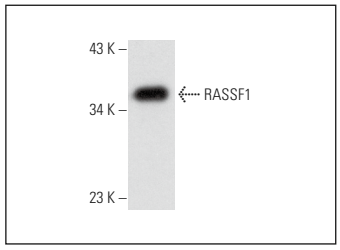
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



RASSF1 (A-2): sc-515949. Western blot analysis of RASSF1 expression in non-transfected (**A**) and human RASSF1 transfected (**B**) HEK293T whole cell lysates.



RASSF1 (A-2): sc-515949. Western blot analysis of RASSF1 expression in SW480 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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