

TC 21 (F-8): sc-166262

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 GTP-bound rather than the inactive GDP-bound state. The related human R-Ras gene was initially cloned by low stringency hybridization methods. Position 38 or 87 (analogous to position 12 and 61 in H-Ras) mutants of R-Ras have been shown to be capable of activating oncogenic function. An additional member of the Ras oncogene family, designated TC 21 (or R-Ras-2) is most closely related to R-Ras. While wildtype TC 21 does not exhibit transforming potential *in vitro*, mutant forms of TC 21 that possess amino acid substitutions analogous to those that activate Ras oncogenic potential exhibit potent transforming activities comparable to the activity characteristic of the known oncogenic Ras proteins.

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.
5. Drivas, G.T., et al. 1990. Characterization of four novel Ras-like genes expressed in a human teratocarcinoma cell line. *Mol. Cell. Biol.* 10: 1793-1798.
6. Saez, R., et al. 1994. Oncogenic activation of human R-Ras by point mutations analogous to that of prototype H-Ras oncogenes. *Oncogene* 9: 2977-2982.

CHROMOSOMAL LOCATION

Genetic locus: RRAS2 (human) mapping to 11p15.2; Rras2 (mouse) mapping to 7 F1.

SOURCE

TC 21 (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 159-190 at the C-terminus of TC 21 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166262 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

TC 21 (F-8) is recommended for detection of TC 21 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).

TC 21 (F-8) is also recommended for detection of TC 21 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for TC 21 siRNA (h): sc-41861, TC 21 siRNA (m): sc-41862, TC 21 shRNA Plasmid (h): sc-41861-SH, TC 21 shRNA Plasmid (m): sc-41862-SH, TC 21 shRNA (h) Lentiviral Particles: sc-41861-V and TC 21 shRNA (m) Lentiviral Particles: sc-41862-V.

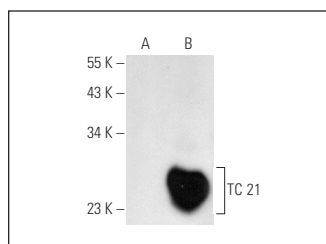
Molecular Weight of TC 21: 21 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or TC 21 (m): 293T Lysate: sc-127639.

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



TC 21 (F-8): sc-166262. Western blot analysis of TC 21 expression in non-transfected: sc-117752 (A) and mouse TC 21 transfected: sc-127639 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. 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.

RESEARCH USE

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