SANTA CRUZ BIOTECHNOLOGY, INC.

Tiam1 (G-1): sc-393176

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A gene designated Tiam1 was originally identified as an invasion-inducing gene by proviral tagging in combination with *in vitro* selection for invasiveness. Transfection of truncated Tiam1 cDNAs into noninvasive cells made these cells invasive. The predicted Tiam1 protein exhibits both Dbl and Pleckstrin-homologous domains characteristic of GDP-GTP exchange proteins for Rho-like proteins that have been implicated in cytoskeletal organization. In fibroblasts, Tiam1 induces a phenotype similar to that of constitutively activated (V12) Rac1, including membrane ruffling, and this is inhibited by dominant negative (N17) Rac1. Moreover, T lymphoma cells expressing (V12) Rac1 become invasive, supporting the suggestion that the Tiam1-Rac signaling pathway may be involved in the invasion and metastasis of tumor cells.

REFERENCES

1. Hart, M.J., et al. 1991 Catalysis of guanine nucleotide exchange on the CDC42Hs protein by the Dbl oncogene product. Nature 354: 311-314.
2. Hall, A. 1992. Ras-related GTPases and the cytoskeleton. Mol. Biol. Cell 3: 475-479.
3. Takaishi, K., et al. 1993. Involvement of Rho p21 and its inhibitory GDP/GTP exchange protein (Rho GDI) in cell motility. Mol. Cell. Biol. 13: 72-79.
4. Tominaga, T., et al. 1993. Inhibition of PMA-induced, LFA-1-dependent lymphocyte aggregation by ADP ribosylation of the small molecular weight GTP binding protein, Rho. J. Cell Biol. 120: 1529-1537.
5. Horii, Y., et al. 1994. A novel oncogene, Ost, encodes a guanine nucleotide exchange factor that potentially links Rho and Rac signaling pathways. EMBO J. 13: 4776-4786.
6. Zheng, Y., et al. 1994. Control of the yeast bud-site assembly GTPase Cdc42. Catalysis of guanine nucleotide exchange by Cdc24 and stimulation of GTPase activity by Bem3. J. Biol. Chem. 269: 2369-2372.
7. Habets, G.G.M., et al. 1994. Identification of an invasion-inducing gene, Tiam1, that encodes a protein with homology to GDP-GTP exchangers for Rho-like proteins. Cell 77: 537-549.

CHROMOSOMAL LOCATION

Genetic locus: TIAM1 (human) mapping to 21q22.11; Tiam1 (mouse) mapping to 16 C3.3.

SOURCE

Tiam1 (G-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Tiam1 of human origin.

PRODUCT

Each vial contains 200 µg IgM 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

Tiam1 (G-1) is recommended for detection of Tiam1 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 Tiam1 siRNA (h): sc-36669, Tiam1 siRNA (m): sc-36670, Tiam1 shRNA Plasmid (h): sc-36669-SH, Tiam1 shRNA Plasmid (m): sc-36670-SH, Tiam1 shRNA (h) Lentiviral Particles: sc-36669-V and Tiam1 shRNA (m) Lentiviral Particles: sc-36670-V.

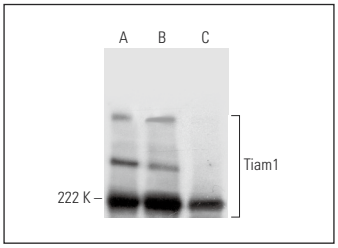
Molecular Weight of Tiam1: 200 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, Ramos cell lysate: sc-2216 or NIH/3T3 whole cell lysate: sc-2210.

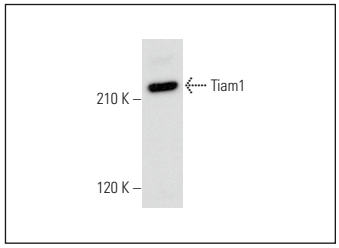
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



Tiam1 (G-1): sc-393176. Western blot analysis of Tiam1 expression in HuT 78 (**A**), Ramos (**B**) and NIH/3T3 (**C**) whole cell lysates.



Tiam1 (G-1): sc-393176. Western blot analysis of Tiam1 expression in TK-1 whole cell lysate.

RESEARCH USE

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

CONJUGATES

See **Tiam1 (E-7): sc-393315** for Tiam1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.