

# Tiam1 (E-7): sc-393315

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Tiam1 (E-7) 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 IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tiam1 (E-7) is available conjugated to agarose (sc-393315 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393315 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393315 PE), fluorescein (sc-393315 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393315 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393315 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393315 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393315 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393315 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393315 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Tiam1 (E-7) 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, SW480 cell lysate: sc-2219 or Ramos cell lysate: sc-2216.

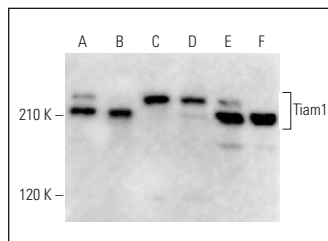
## RESEARCH USE

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

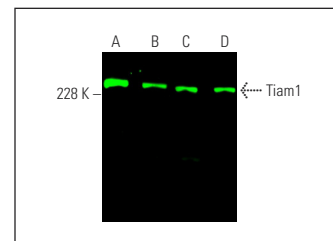
## STORAGE

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

## DATA



Tiam1 (E-7): sc-393315. Western blot analysis of Tiam1 expression in Jurkat (A), HEK293T (B), TK-1 (C), F9 (D), SUP-T1 (E) and ALL-SIL (F) whole cell lysates.



Tiam1 (E-7): sc-393315. Near-infrared western blot analysis of Tiam1 expression in HuT 78 (A), Ramos (B), HCT-116 (C) and SW480 (D) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

## SELECT PRODUCT CITATIONS

- Liu, L., et al. 2018. Tiam1 promotes thyroid carcinoma metastasis by modulating EMT via Wnt/β-catenin signaling. *Exp. Cell Res.* 362: 532-540.
- Poudel, K.R., et al. 2018. Competition between Tiam1 and membranes balances endophilin A3 activity in cancer metastasis. *Dev. Cell* 45: 738-752.e6.
- Chen, Z.S., et al. 2018. Planar cell polarity gene Fuz triggers apoptosis in neurodegenerative disease models. *EMBO Rep.* 19: e45409.
- Balaji Ragunathrao, V.A., et al. 2019. Sphingosine-1-phosphate receptor 1 activity promotes tumor growth by amplifying VEGF-VEGFR2 angiogenic signaling. *Cell Rep.* 29: 3472-3487.e4.
- Landin Malt, A., et al. 2019. Par3 is essential for the establishment of planar cell polarity of inner ear hair cells. *Proc. Natl. Acad. Sci. USA* 116: 4999-5008.
- Fulmer, D., et al. 2020. Desert hedgehog-primary cilia cross talk shapes mitral valve tissue by organizing smooth muscle Actin. *Dev. Biol.* 463: 26-38.
- Wang, S., et al. 2020. Up-regulation of Tiam1 promotes the radioresistance of laryngeal squamous cell carcinoma through activation of the JNK/ATF-2 signaling pathway. *Oncotargets Ther.* 13: 7065-7074.
- Duncan, B.W., et al. 2021. Semaphorin3F drives dendritic spine pruning through Rho-GTPase signaling. *Mol. Neurobiol.* 58: 3817-3834.
- Zhu, X., et al. 2022. S-ketamine exerts antidepressant effects by regulating Rac1 GTPase mediated synaptic plasticity in the hippocampus of stressed rats. *Cell. Mol. Neurobiol.* 43: 299-314.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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