



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 



## Tiam 1 (Catalytic domain/ C-terminal domain)

Catalogue number: **MUB1807P**

Clone	Polyclonal
Product Type	Primary Antibodies
Units	0.1ml
Host	Rabbit
Species reactivity	Human Mouse
Application	Immunoblotting Immunocytochemistry Immunohistochemistry (frozen) Immunohistochemistry (paraffin) Immunoprecipitation

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### Background

Directional cell migration is essential for various physiological processes such as embryonic development, angiogenesis, wound healing, and tumor invasion. In response to extracellular and cell adhesion signals, cells acquire a polarized morphology with a leading edge at their front and a trailing tail at the rear. This front-rear polarity is established along the directional axis, with signaling molecules, adhesions, and the cytoskeleton distributed asymmetrically. The signaling molecules that control polarity include the Rho family GTPases, including Rac1. The Rac exchange factor Tiam1 participates in polarized cell migration. Tiam1 binds to integrins through talin and regulates Rac1 activity and adhesion turnover for polarized migration. Tiam 1 contains a Dbl homology (DH) or RhoGEF domain which consists of an ~ 150 amino acid region that induces Rho family GTPases to displace GDP. This effectively activates the Rho GTPase by allowing GTP binding, which is in excess over GDP in the cell. The DH domain is invariably preceded by a pleckstrin homology (PH) domain. While not absolutely required for catalysis of nucleotide exchange, the PH domain appears to greatly increase catalytic efficiency in many cases. Tiam1 (T-cell lymphoma invasion and metastasis inducing protein 1) was originally identified as an invasion-inducing gene. Thereafter several studies supported the suggestion that the Tiam1-Rac signaling pathway may be involved in the invasion and metastasis of tumor cells.

### Source

Human Tiam1 (catalytic domain/ C-terminal domain) is an affinity

purified rabbit polyclonal antiserum derived by injection of rabbits with a GST fusion protein with the C-terminal amino acids 904-1511 of Tiam 1. The antiserum was purified by affinity chromatography using the fusion protein coupled to glutathione agarose beads.

#### **Product**

Each vial contains 100 µl affinity purified rabbit antiserum containing 0.09% sodium azide.

#### **Applications**

Human Tiam-1 (catalytic domain/ C-terminal domain) is suitable for immunoblotting, immunocytochemistry, and immunohistochemistry on frozen and paraffin-embedded tissues. Optimal antibody dilution should be determined by titration; recommended range is 1:100 – 1:200 for immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent, and 1:100 – 1:1000 for immunoblotting applications.

#### **Specificity**

Human Tiam1 (catalytic domain/ C-terminal domain) recognizes the C-terminal amino acids 904-1511 of Tiam 1 containing the DH-PH regions.

#### **Storage**

Store at 4°C, or in small aliquots at -20°C.

#### **References**

1. Hordijk PL, ten Klooster JP, van der Kammen RA, Michiels F, Oomen LC, Collard JG. Inhibition of invasion of epithelial cells by Tiam1-Rac signaling. *Science* 1997;27:1464-1466.
2. Mertens AE, Rygiel TP, Olivo C, van der Kammen R, Collard JG. The Rac activator Tiam1 controls tight junction biogenesis in keratinocytes through binding to and activation of the Par polarity complex. *J Cell Biol* 2005;170:1029-1037.
3. Habets GG, Scholtes EH, Zuydgeest D, van der Kammen RA, Stam JC, Berns A, Collard JG. Identification of an invasion-inducing gene, Tiam-1, that encodes a protein with homology to GDP-GTP exchangers for Rho-like proteins. *Cell* 1994;77:537-549.
4. Lambert JM, Lambert QT, Reuther GW, Malliri A, Siderovski DP, Sondek J, Collard JG, Der CJ. Tiam1 mediates Ras activation of Rac by a PI(3)K-independent mechanism. *Nat Cell Biol* 2002;4:621-625.
5. Malliri A, van der Kammen RA, Clark K, van der Valk M, Michiels F, Collard JG. Mice deficient in the Rac activator Tiam1 are resistant to Ras-induced skin tumours. *Nature* 2002;417:867-871.
6. Wang S, Watanabe T, Matsuzawa K, Katsumi A, Kakeno M, Matsui T, Ye F, Sato K, Murase K, Sugiyama I, Kimura K, Mizoguchi A, Ginsberg MH, Collard JG, Kaibuchi K. Tiam1 interaction with the PAR complex promotes talin-mediated Rac1 activation during polarized cell migration. *J Cell Biol* 2012;199:331-345.

#### **Caution**

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals. This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water. This datasheet is as accurate as reasonably

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