

Resource Summary Report

Generated by [NIF](#) on Jul 30, 2026

pTriEx4-Rac1-2G

RRID:Addgene_66110

Type: Plasmid

Proper Citation

RRID:Addgene_66110

Plasmid Information

URL: <http://www.addgene.org/66110>

Proper Citation: RRID:Addgene_66110

Insert Name: Second generation Rac1 FRET biosensor

Organism: Synthetic

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:26439400](#)

Vector Backbone Description: Backbone Marker:Novagen; Backbone Size:4900; Vector Backbone:pTriEx4; Vector Types:Mammalian Expression, Bacterial Expression, Insect Expression; Bacterial Resistance:Ampicillin

Plasmid Name: pTriEx4-Rac1-2G

Record Creation Time: 20220422T222416+0000

Record Last Update: 20260725T075015+0000

Ratings and Alerts

No rating or validation information has been found for pTriEx4-Rac1-2G.

No alerts have been found for pTriEx4-Rac1-2G.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 17 mentions in open access literature.

Listed below are recent publications. The full list is available at [NIF](#) .

Zhang J, et al. (2024) Gain-of-Function KIDINS220 Variants Disrupt Neuronal Development and Cause Cerebral Palsy. *Movement disorders : official journal of the Movement Disorder Society*, 39(3), 498.

Koo TY, et al. (2023) N-Acryloylindole-alkyne (NAIA) enables imaging and profiling new ligandable cysteines and oxidized thiols by chemoproteomics. *Nature communications*, 14(1), 3564.

Harms J, et al. (2023) Pals1 functions in redundancy with SMAP1 to inhibit Arf6 in order to prevent Rac1-dependent colorectal cancer cell migration and invasion. *Cancer gene therapy*, 30(3), 497.

Müller PM, et al. (2022) A screening-compatible live cell fluorescence resonance energy transfer-based assay for modulation of Rho GTPase activity. *STAR protocols*, 3(4), 101705.

Hu J, et al. (2022) Local temporal Rac1-GTP nadirs and peaks restrict cell protrusions and retractions. *Science advances*, 8(12), eabl3667.

Pham H, et al. (2022) Förster resonance energy transfer biosensors for fluorescence and time-gated luminescence analysis of rac1 activity. *Scientific reports*, 12(1), 5291.

Anijs M, et al. (2022) ARHGEF39, a Gene Implicated in Developmental Language Disorder, Activates RHOA and Is Involved in Cell De-Adhesion and Neural Progenitor Cell Proliferation. *Frontiers in molecular neuroscience*, 15, 941494.

Yang JM, et al. (2021) Deciphering cell signaling networks with massively multiplexed biosensor barcoding. *Cell*, 184(25), 6193.

Yang M, et al. (2020) Voltage-dependent activation of Rac1 by Nav 1.5 channels promotes cell migration. *Journal of cellular physiology*, 235(4), 3950.

Keyes J, et al. (2020) Signaling diversity enabled by Rap1-regulated plasma membrane ERK with distinct temporal dynamics. *eLife*, 9.

Cheng HW, et al. (2019) Centrosome guides spatial activation of Rac to control cell polarization and directed cell migration. *Life science alliance*, 2(1).

Dagliyan O, et al. (2019) Engineering proteins for allosteric control by light or ligands. *Nature protocols*, 14(6), 1863.

Koubek EJ, et al. (2018) ARF1 and ARF6 regulate recycling of GRASP/Tamalin and the Rac1-GEF Dock180 during HGF-induced Rac1 activation. *Small GTPases*, 9(3), 242.

Tang K, et al. (2018) Paxillin phosphorylation at serine 273 and its effects on Rac, Rho and adhesion dynamics. *PLoS computational biology*, 14(7), e1006303.

Schulz J, et al. (2018) Methods to Study the Roles of Rho GTPases in Dendritic Tree Complexity. *Methods in molecular biology* (Clifton, N.J.), 1821, 297.

Sun T, et al. (2017) A reverse signaling pathway downstream of Sema4A controls cell migration via Scrib. *The Journal of cell biology*, 216(1), 199.

Schulz J, et al. (2016) Different roles of the small GTPases Rac1, Cdc42, and RhoG in CALEB/NGC-induced dendritic tree complexity. *Journal of neurochemistry*, 139(1), 26.