Active Rac1-GTP [26903] [30 μL]

Catalog Number: 26903
Gene Symbol: RAC1
Description: Anti-Active Rac1-GTP Mouse Monoclonal Antibody

Background: Small GTPases are a super-family of cellular signaling regulators. Rac belongs to the Rho sub-family of GTPases that regulate cell motility, cell division, and gene transcription. GTP binding increases the activity of Rac, and the hydrolysis of GTP to GDP renders it inactive. GTP hydrolysis is aided by GTPase activating proteins (GAPs), while exchange of GDP for GTP is facilitated by guanine nucleotide exchange factors (GEFs).

Immunogen: Recombinant full length protein of active Rac1

Applications: IP, IHC

Recommended Dilutions: 1 µg for 1~2 mg total cellular proteins for IP; 1:100 dilution for IHC

Concentration: 1 mg/ml

Host: mouse

Format: Liquid

Clonality: Monoclonal

Isotype: IgM

Purity: Purified from ascites

Storage buffer: PBS (without Mg$^{2+}$ and Ca$^{2+}$), pH 7.4, 150 mM NaCl, 50% glycerol

Species Reactivity: Anti-active Rac1 antibody recognizes active Rac1 from vertebrates.

Storage Conditions: Store at -20°C. Avoid freeze / thaw cycles

Download Datasheet:

Immunoprecipitation/Western blot:

![Immunoprecipitation/Western blot diagram](image)

Rac activation assay. MEF cells were treated with (lane 2) or without (lane 1) PDGF. Cell lysates were incubated with an anti-active Rac monoclonal antibody (Cat # 26903) (top panel). The precipitated active Rac was immunoblotted with an anti-Rac rabbit polyclonal antibody (Cat # 21003). The bottom panel shows the Western blot with anti-Rac of the cell lysates used (5% of that used in the top panel).

Immunohistochemistry:

![Immunohistochemistry image](image)

Immunohistochemistry for the active Rac using Anti-Active Rac1-GTP Mouse Monoclonal Antibody [26903] shows Rac-GTP immunolabeling (green) in combination with coflin (red) on brain tissue sections. The tissue sections were fixed with -20 °C methanol or 4% paraformaldehyde (fixation time 1hr) and stained with antibody at 1:1000 in 0.1M Phosphate buffer with 0.3% Triton X, and 4% BSA for 24h at room temperature. Secondary antibodies were anti-mouse AlexaFluor488 and anti-rabbit AlexaFluor594 at 1:1000.
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Publications:
1. SUMOylation of the GTPase Rac1 is required for optimal cell migration
   Nature Cell Biology, 2010
2. Multiple mechanisms of NADPH oxidase inhibition by type A and type B Francisella tularensis
   Journal of Leukocyte Biology, 2010
3. Aspect Ratio Determines the Quantity of Mesoporous Silica Nanoparticle Uptake by a Small GTPase-Dependent Macropinocytosis Mechanism
   ACS Nano, 2011
4. NADPH oxidase activation by hyperglycemia in cardiomyocytes is independent of glucose metabolism but requires SGLT1
   Cardiovascular Research, 2011
5. Latent KSHV infection increases the vascular permeability of human endothelial cells
   Blood, 2011
6. Rac1 and Stathmin but Not EB1 Are Required for Invasion of Breast Cancer Cells in Response to IGF-I
   International Journal of Cell Biology, 2011
7. R-Ras and Rac GTPase Cross-talk Regulates Hematopoietic Progenitor Cell Migration, Homing, and Mobilization
   J. Biol. Chem. 2011
8. Nicotine Down-Regulated Rac GTP and Decreased Cell Migration
   The Preliminary Program for AADR Annual Meeting, 2011
9. Interferon-β Therapy Against EAE Is Effective Only When Development of the Disease Depends on the NLRP3 Inflammasome
   Sci. Signal., 2012
10. Rac1 Inhibition Prevents Tissue Contraction and MMP Mediated Matrix Remodeling in the Conjunctiva
    IVOS, 2012
11. K-Ras Mediated Murine Epidermal Tumorigenesis Is Dependent upon and Associated with Elevated Rac1 Activity
    OPLOs ONE, 2011
12. Physiological Activation of Synaptic Rac> PAK (p-21 Activated Kinase) Signaling Is Defective in a Mouse Model of Fragile X Syndrome
    The Journal of Neuroscience, 2010
13. Intracellular Ca^{2+} can compensate for the lack of NADPH oxidase-derived ROS in endothelial cells
    FEBS Letters, 2010
14. Phosphorylation of VE-cadherin controls endothelial phenotypes via p120-catenin coupling and Rac1 activation
    Am J Physiol Heart Circ Physiol, 2010