

RhoA/Rac1/CDC42 Activation Assay Kit

RhoA/Rac1/CDC42 Activation Assay Combo Kit

CATALOG #
AAA44537

PRODUCT SYNONYMS

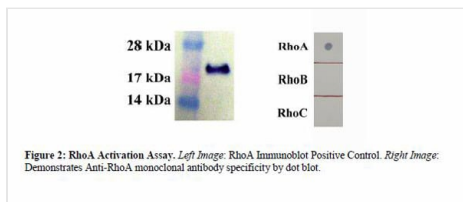
RhoA/Rac1/CDC42 Activation; RhoA/Rac1/CDC42 Activation Assay Combo Kit; RhoA/Rac1/Cdc42 Activation Assay Combo Kit; RhoA/Rac1/CDC42 Activation assay kit

PRODUCT SPECIFICATIONS

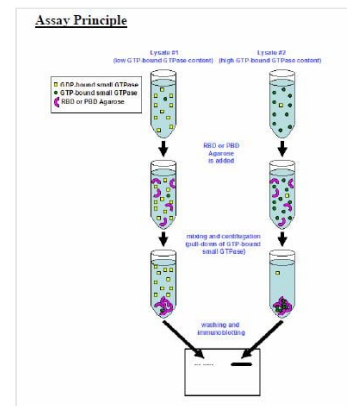
Preparation and Storage

Store all kit components at -20 degree C until their expiration dates. Avoid multiple freeze/thaw cycles.

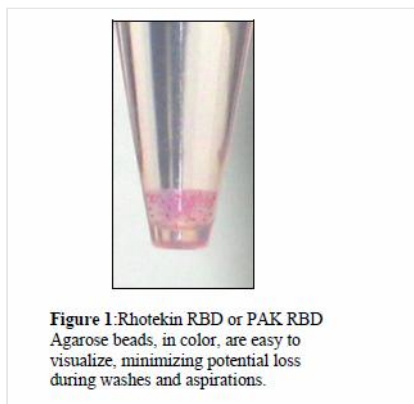
IMAGES



Application Data



Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for RhoA/Rac1/CDC42 Activation assay kit	Background/Introduction: Small GTP-binding proteins (or GTPases) are a family of proteins that serve as molecular regulators in signaling transduction pathways. RhoA, Rac1 and Cdc42, 21 kDa proteins, belong to the family of Rho GTPases regulates a variety of biological response pathways that include cell motility, cell division, gene transcription, and cell transformation. Like other small GTPases, RhoA, Rac1 and Cdc42 regulate molecular events by cycling between an inactive GDP-bound form and an active GTPbound form. In its active (GTP-bound) state, RhoA binds specifically to the Rho-binding domain (RBD) of Rhotekin, and Rac1 or Cdc42 binds specifically to the p21-binding domain (PBD) of p21- activated protein kinase (PAK) to control downstream signaling cascades. The RhoA/Rac1/Cdc42 Activation Assay utilizes Rhotekin RBD and PAK PBD Agarose beads to selectively isolate and pull-down the active form of Rho/Rac/Cdc42 from purified samples or endogenous lysates. Subsequently, the precipitated GTP-Rho or Rac or Cdc42 is detected by western blot analysis using an anti-RhoA or Rac1 or Cdc42 antibody (see Figure 3, Figure 5, Figure 7 and Assay Principle). The RhoA/Rac1/Cdc42 Activation Assay Kit provides a simple and fast tool to monitor the activation of RhoA, Rac1 or Cdc42. The kit includes easily identifiable Rhotekin RBD and PAK1 PBD Agarose beads (see Figure 1), pink in color, along with RhoA, Rac1 and Cdc42 Immunoblot Positive Controls for quick Rho small GTPase identification. Each kit provides sufficient quantities to perform 10 assays for each small GTPase.
Product Categories/Family for RhoA/Rac1/CDC42 Activation assay kit	Cell Signaling and Protein Biology; G Protein Signaling/Small GTPase Assays and Vectors; Small GTPase Research Tools; Small GTPase Activation Assays
References	1. Ren X.D. and Schwartz M. A. (2000) Methods Enzymol. 325:264-72. 11 2. Raftopoulou M., and Hall A. (2004) Dev Biol. 265:23-32. 3. Bar-Sagi D., and Hall A. (2000) Cell 103:227-38. 4. Benard, V., Bohl, B. P., and Bokoch, G. M. (1999) J. Biol. Chem. 274:13198-13204. 1. Wang, J. et al. (2013). DEK Depletion Negatively Regulates Rho/ROCK/MLC Pathway in Non-Small Cell Lung Cancer. Journal of Histochemistry & Cytochemistry. 10.1369/0022155413488120. 2. Quint, P. et al. (2013). Sphingosine 1-Phosphate (S1P) Receptors 1 and 2 Coordinately Induce Mesenchymal Cell Migration through S1P Activation of Complementary Kinase Pathways. J. Biol. Chem. 288:5398-5406. 3. Yu, X. et al. (2012). RhoGDI SUMOylation at Lys-138 Increases Its Binding Activity to Rho GTPase and Its Inhibiting Cancer Cell Motility. J.Biol. Chem. 287:13752-13760. 4. Baranwai, S. et al. (2011). Molecular Characterization of the Tumor-Suppressive Function of Nischarin in Breast Cancer. J. Natl Cancer Inst. 10.1093/jnci/djr350. 5. Tian, D. et al. (2010). Antagonistic Regulation of Actin Dynamics and Cell Motility by TRPC5 and TRPC6 Channels. Sci. Signal. 3:ra77. 6. Xu, Y. et al. (2010). Neuropilin-2 mediates VEGF-C-induced lymphatic sprouting together with VEGFR3. J. Cell Biol. 188:115130. 7. Ma, T. el al. (2010). Viral G protein-coupled receptor up-regulates Angiopoietin-like 4 promoting angiogenesis and vascular permeability in Kaposi's sarcoma. PNAS 104:14363-14368. 8. Mohseni, M. et al. (2008). The headpiece domain of dematin regulates cell shape, motility, and wound healing by modulating RhoA activity. Mol. Cell. Biol. 28:4712-4718. 9. Liu, Y. et al. (2008). Ganglioside depletion and EGF responses of human GM3 synthase-deficient fibroblasts. Glycobiology 18:593-601. 10. Qu, Y. et al. (2008). Enhanced migration and CXCR4 over-expression in fibroblasts with telomerase reconstitution. Mol. and Cell. Biochem. 313:45-52.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/rhoa-rac1-cdc42-activation/44537>