

ROCK Activity Immunoblot Kit

ROCK Activity Immunoblot Kit

CATALOG #
AAA44565

PRODUCT SYNONYMS

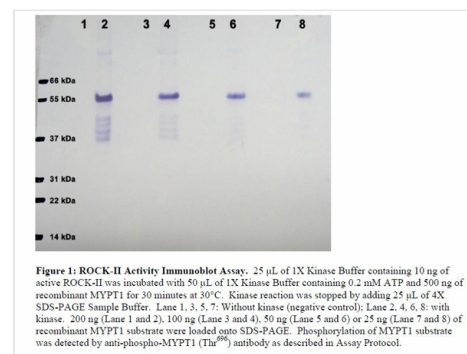
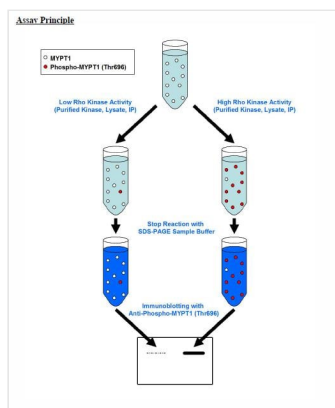
ROCK Activity; ROCK Activity Immunoblot Kit; ROCK Activity immunoblot kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store active ROCK-II at -80 degree C and all other kit components at -20 degree C until their expiration dates. Avoid multiple freeze/thaw cycles.

IMAGES



Application Data

Application Data

ADDITIONAL INFORMATION

Related Product Information for ROCK Activity immunoblot kit

Background: Members of the Rho family are essential regulatory components of the signaling pathway that direct cell motility, adhesion, and cytokinesis through reorganization of actin cytoskeleton. Rho is activated by extracellular signals such as lysophosphatidic acid (LPA). The actions of Rho are mediated by downstream Rho effectors. One of these effectors is Rho-associated kinase (ROCK). Two ROCK isoforms have been identified: ROCK-I (also known as ROKbeta) and ROCK-II (also known as Rho Kinase and ROKalpha). ROCK mediates Rho signaling and reorganizes actin cytoskeleton through phosphorylation of several substrates that contribute to the assembly of actin filaments and contractility. For example, ROCK inactivates myosin phosphatase through the specific phosphorylation of myosin phosphatase target subunit 1 (MYPT1) at Thr696, which results in an increase in the phosphorylated content of the 20-kDa myosin light chain (MLC20). ROCK Activity Immunoblot Kit utilizes recombinant MYPT1 as ROCK substrate. After incubating the substrate with ROCK samples (such as purified kinase, cell lysate or immunoprecipitate), the phosphorylated MYPT1 is detected by western blot analysis using an anti-phospho-MYPT1 (Thr696) (Figure 1). ROCK Activity Immunoblot Kit provides a simple and fast tool to monitor ROCK activity using its physiological substrate. The kit also includes active ROCK-II as a positive control. Each kit provides sufficient quantities to perform 20 assays.

Product Categories/Family for ROCK Activity immunoblot kit

Cell Signaling and Protein Biology; Kinase Assays; Rho Kinase (ROCK) Assays

References

1. Etienne-Manneville, S., and Hall, A. (2002) Nature 420, 629-635.
2. Riento, K., and Ridley, A. J. (2003) Nat. Rev. Mol. Cell. Biol. 4, 446-456.
3. Leung, T., Manser, E., Tan, L., and Lim, L. (1995) J. Biol. Chem. 270, 29051-29054.
4. Matsui, T., Amano, M., Yamamoto, T., Chihara, K., Nakafuku, M., Ito, M., Nakano, T., Okawa, K., Iwamatsu, A., and Kaibuchi, K. (1996) EMBO J. 15, 2208-2216.
5. Totsukawa, G. et al., J. Cell Biol. (1999) 144, 735-744.
1. Sailland, J. et al. (2014). Estrogen-Related Receptor alpha Decreases RHOA Stability to Induce Orientated Cell Migration. Proc Natl Acad Sci U S A. 111:15108-15113.
2. Georgess, D. et al. (2014). Comparative Transcriptomics Reveals RhoE as a Novel Regulator of Actin Dynamics in Bone-Resorbing Osteoclasts. Mol. Biol. 25:380-396.
3. Chandrasekharan, U. et al. (2013). Release of Nonmuscle Myosin II from the Cytosolic Domain of Tumor Necrosis Factor Receptor 2 Is Required for Target Gene Expression. Sci. Signal. 6: ra60.
4. Gupta, N. et al. (2012). Soluble Epoxide Hydrolase: Sex Differences and Role in Endothelial Cell Survival. Arterioscler Throm Vasc Biol. 32:1936-1942.
5. Forero, D.G. et al.(2012).Endogenous Rho-Kinase Signaling Maintains Synaptic Strength by Stabilizing the Size of the Readily Releasable Pool of Synaptic Vesicles. J.Biol Chem. 287:1600-1608.
6. Wang, J.N. et al. (2011). Response Gene to Complement 32 Promotes Vascular Lesion Formation Through Stimulation of Smooth Muscle Cell Proliferation and Migration. Arterioscler Thromb Vasc Biol. 31:e19-e26.
7. Li, Z. et al. (2009). TrkBT1 Induces Liver Metastasis of Pancreatic Cancer Cells by Sequestering Rho GDP Dissociation Inhibitor and Promoting RhoA Activation. Cancer Res. 69:7851-7859.
8. Xiao, L. et al. (2009). ROCK Mediates Phorbol Ester-Induced Apoptosis in Prostate Cancer Cells Via p21-Cip1 Upr-Egulation and JNK. J. Biol. Chem. 284:29365-29375.

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.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/immunoblot-kits/rock-activity/44565>