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ProductInformation

Anti-RhoB
produced in rabbit, affinity isolated antibody

Catalog Number **R9779**

Product Description

Anti-RhoB is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 177-188 located near the C-terminus of human RhoB (GeneID: 388), conjugated to KLH. This sequence is identical in mouse and rat RhoB, highly conserved in chicken RhoB (single amino acid substitution) and is not found in RhoA and RhoC. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-RhoB recognizes RhoB by immunoblotting, ~21 kDa. Staining of the RhoB band is specifically inhibited by the immunizing peptide.

Rho GTPases belong to the Ras superfamily of small GTPases, which consists of the Rho, Rac and Cdc42 subgroups. In animal cells, Rho GTPases differentially regulate the actin cytoskeleton, endocytosis, and several signaling cascades, including mitogen-activated protein kinase (MAPK) and phosphoinositide (PI) pathways.[1,2] Activation of Rho GTPases occurs via interaction with GDP/GTP exchange factors (GEFs) and GTPase activating proteins (GAPs), and is modulated by prenylation.[3] The C-terminal hypervariable domain contains the CAAX box prenylation motif, a polybasic Lys-rich domain, and may contain additional Cys residues required for palmitoylation. The mammalian Rho proteins RhoA, B and C (p21Rho, Rho), are approximately 30% homologous to Ras and are expressed in a wide range of cell types. Rho proteins contain a C-terminal sequence CAAL, whose post-translational modification regulates Rho activation and function.[4] Rho proteins regulate the formation and reorganization of the actin cytoskeleton. This function is key to cellular processes such as cytokinesis, cell migration and membrane ruffling.[5] Activation of Rho to the GTP bound state promotes activation of stress fibers and is required for the formation and maintenance of focal adhesions. Rho modulates the activity of signaling pathways stimulated by cytokines, hormones and various types of stress stimuli. The activity of Rho is thought to be mediated by several downstream signaling proteins including Rho-kinase 1 and 2 (ROCK1, 2), p120 protein kinase N (PKN) and myosin light-chain phosphatase (MLCP).[6-8] Rho has also been shown to modulate the activity of PI-3-kinase, PI-4,5-kinase and phospholipase D (PLD) in vitro.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/ml

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using HEK293 cells expressing human RhoB.

Note: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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5. McBeath, R., *Dev. Cell*, **6**, 483-495 (2004).
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