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# Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody

**Rock-2 phospho Y256 Antibody**
**Catalog # ASR5398**

## Specification

### Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody - Product Information

| | |
|---|---|
| Host | **Rabbit** |
| Conjugate | **Unconjugated** |
| Target Species | **Human** |
| Reactivity | **Human** |
| Clonality | **Polyclonal** |
| Application | **WB, IHC, E, I, LCI** |
| Application Note | **This affinity purified antibody has been tested for use in ELISA and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 164 kDa in size corresponding to phosphorylated ROCK-2 by western blotting in the appropriate cell lysate or extract. This phospho-specific polyclonal antibody reacts with human ROCK-2 pY256 and shows minimal reactivity by ELISA against the non-phosphorylated form of the immunizing peptide.** |
| Physical State | **Liquid (sterile filtered)** |
| Buffer | **0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2** |
| Immunogen | **This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to residues surrounding Y256 of human ROCK-2.** |
| Preservative | **0.01% (w/v) Sodium Azide** |

### Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody - Additional Information

**Gene ID** 9475

**Other Names**
9475

**Purity**
This product was affinity purified from monospecific antiserum by immunoaffinity chromatography using phospho-peptide coupled to agarose beads followed by solid phase adsorption against nonphospho-peptide. This antibody is specific for human ROCK-2 protein phosphorylated at Y256. A BLAST analysis was used to suggest cross-reactivity with ROCK-2 from human, mouse, rat,

chicken, dog, bovine, Xenopus and Drosophila based on a 100% homology with the immunizing sequence.  Cross-reactivity with ROCK-2 from other sources has not been determined.

**Storage Condition**
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

**Precautions Note**
This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody - Protein Information

**Name** ROCK2

**Synonyms** KIAA0619

**Function**
Protein kinase which is a key regulator of actin cytoskeleton and cell polarity. Involved in regulation of smooth muscle contraction, actin cytoskeleton organization, stress fiber and focal adhesion formation, neurite retraction, cell adhesion and motility via phosphorylation of ADD1, BRCA2, CNN1, EZR, DPYSL2, EP300, MSN, MYL9/MLC2, NPM1, RDX, PPP1R12A and VIM. Phosphorylates SORL1 and IRF4. Acts as a negative regulator of VEGF-induced angiogenic endothelial cell activation. Positively regulates the activation of p42/MAPK1- p44/MAPK3 and of p90RSK/RPS6KA1 during myogenic differentiation. Plays an important role in the timely initiation of centrosome duplication. Inhibits keratinocyte terminal differentiation. May regulate closure of the eyelids and ventral body wall through organization of actomyosin bundles. Plays a critical role in the regulation of spine and synaptic properties in the hippocampus. Plays an important role in generating the circadian rhythm of the aortic myofilament Ca(2+) sensitivity and vascular contractility by modulating the myosin light chain phosphorylation.

**Cellular Location**
Cytoplasm. Cell membrane; Peripheral membrane protein. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Cytoplasmic, and associated with actin microfilaments and the plasma membrane.

**Tissue Location**
Expressed in the brain (at protein level).

## Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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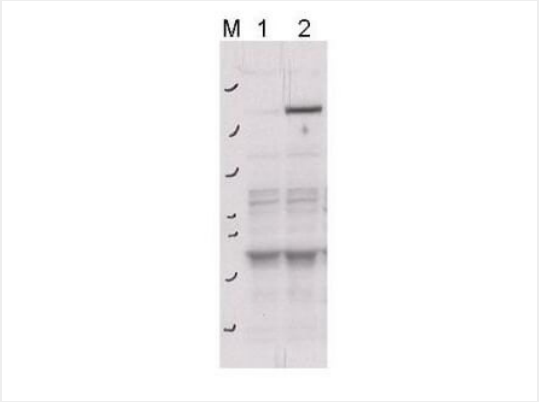
## Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody - Images




Western blot using Rockland's affinity purified anti-ROCK-2 pY256 antibody shows detection of phosphorylated ROCK-2 in transfected 293T cells. Lane 1 shows lysate expressing exogenous ROCK-2 where the insert contains the transversion Y256A. Lane 2 shows the lysate expressing WT ROCK-2. A lysate containing a GST null vector also shows no specific staining (data not shown). Primary antibody was used at a 1:1000 dilution. Personal Communication, A. Papageorge and X. Qian, NCI, Bethesda, MD.

## Anti-ROCK-2 (Rho-associated Protein Kinase-2) pY256 (RABBIT) Antibody - Background

This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. Progression of tumors to invasive and metastatic forms requires that tumor cells undergo dramatic morphological changes, a process regulated by Rho GTPases. Increased levels of RhoA or RhoC, as well as the Rho effector proteins ROCK-1 or ROCK-2, were observed in various human carcinomas. In vivo studies have also shown that ROCK inhibition reduced the invasiveness of several tumor cell lines. It is suggested that Rho and ROCK signaling contribute to the morphological changes and metastatic behavior of some tumor cells. Thus, elevated Rho and ROCK expression is associated with tumorigenesis, particularly during the progression to invasive and metastatic phenotypes. Phosphorylation of certain residues in ROCK-2 may be critical for its kinase activity.