

## Mouse Anti-RHOA antibody

SLM-51746M

|                                     |  |
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| <b>Product Name</b>                 | RHOA   |
| <b>Chinese Name</b>                 | RHOA 单克隆抗体   |
| <b>Alias</b>                        | RHOA_HUMAN; RhoA protein; Aplysia ras related homolog 12; ARH 12; ARH12; ARHA; H 12; Oncogene RHO H12; Ras homolog gene family member A; RHO 12; Rho A; RHO H12; RHO12; RHOH 12; RHOH12; Small GTP binding protein Rho A; Small GTP binding protein RhoA; Transforming protein Rho A; Transforming protein RhoA. |
| <b>Research Area</b>                | Tumour Signal transduction G protein signal  |
| <b>Immunogen Species</b>            | Mouse  |
| <b>Clonality</b>                    | Monoclonal   |
| <b>Clone NO.</b>                    | C5F6   |
| <b>React Species</b>                | Human, Mouse, (predicted: Rat, )<br>WB=1:500-2000  |
| <b>Applications</b>                 | not yet tested in other applications.<br>optimal dilutions/concentrations should be determined by the end user.  |
| <b>Theoretical molecular weight</b> | 21kDa  |
| <b>Cellular localization</b>        | cytoplasmic The cell membrane  |
| <b>Form</b>                         | Liquid   |
| <b>Concentration immunogen</b>      | 1mg/ml<br>Recombinant human RhoA.  |
| <b>Lsotype</b>                      | IgG1, $\kappa$   |
| <b>Purification</b>                 | affinity purified by Protein G   |
| <b>Buffer Solution</b>              | 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.   |
| <b>Storage</b>                      | Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.   |
| <b>Attention</b>                    | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.  |
| <b>PubMed</b>                       | <a href="#">PubMed</a>   |

This gene encodes a member of the Rho family of small GTPases, which cycle between inactive GDP-bound and active GTP-bound states and function as molecular switches in signal transduction cascades. Rho proteins promote reorganization of the actin cytoskeleton and regulate cell shape, attachment, and motility. The protein encoded by this gene is prenylated at its C-terminus, and localizes to the cytoplasm and plasma membrane. It is thought to be important in cell locomotion. Overexpression of this gene is associated with tumor cell proliferation and metastasis. Multiple alternatively spliced variants, encoding the same protein, have been identified.

**Function:**

Regulates a signal transduction pathway linking plasma membrane receptors to the assembly of focal adhesions and actin stress fibers. Involved in a microtubule-dependent signal that is required for the myosin contractile ring formation during cell cycle cytokinesis. Plays an essential role in cleavage furrow formation. Required for the apical junction formation of keratinocyte cell-cell adhesion. Serves as a target for the yopT cysteine peptidase from *Yersinia pestis*, vector of the plague, and *Yersinia pseudotuberculosis*, which causes gastrointestinal disorders. Stimulates PKN2 kinase activity. May be an activator of PLCE1. Activated by ARHGEF2, which promotes the exchange of GDP for GTP. Essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly. The MEMO1-RHOA-DIAPH1 signaling pathway plays an important role in ERBB2-dependent stabilization of microtubules at the cell cortex. It controls the localization of APC and CLASP2 to the cell membrane, via the regulation of GSK3B activity. In turn, membrane-bound APC allows the localization of the MACF1 to the cell membrane, which is required for microtubule capture and stabilization.

**Product Detail**

**Subunit:**

Interacts with ARHGEF28. Binds PRKCL1, ROCK1 and ROCK2. Interacts with ARHGEF2, ARHGEF3, NET1 and RTKN. Interacts with PLCE1 and AKAP13. Interacts (in the constitutively activated, GTP-bound form) with DGKQ. Interacts with human respiratory syncytial virus (HRSV) protein F; this interaction facilitates virus-induced syncytium formation. Interacts with GNB2L1/RACK1; enhances RHOA activation. Interacts with PKP4; the interaction is detected at the midbody. Interacts (GTP-bound form preferentially) with PKN2; the interaction stimulates autophosphorylation and phosphorylation of PKN2.

**Subcellular Location:**

Cell membrane; Lipid-anchor; Cytoplasmic side. Cytoplasm, cytoskeleton. Cleavage furrow. Cytoplasm, cell cortex. Midbody. Note=Localized to cell-cell contacts in calcium-treated keratinocytes. Translocates to the

equatorial region before furrow formation in a ECT2-dependent manner. Localizes to the equatorial cell cortex (at the site of the presumptive furrow) in early anaphase in a activated form and in a myosin- and actin-independent manner.

**Tissue Specificity:**

Expressed highly in placenta, prostate and trachea and lower expression in the small intestine and lung.

**Post-translational modifications:**

Substrate for botulinum ADP-ribosyltransferase.

Cleaved by yopT protease when the cell is infected by some Yersinia pathogens. This removes the lipid attachment, and leads to its displacement from plasma membrane and to subsequent cytoskeleton cleavage.

AMPylation at Tyr-34 and Thr-37 are mediated by bacterial enzymes in case of infection by H.somnus and V.parahaemolyticus, respectively. AMPylation occurs in the effector region and leads to inactivation of the GTPase activity by preventing the interaction with downstream effectors, thereby inhibiting actin assembly in infected cells. It is unclear whether some human enzyme mediates AMPylation; FICD has such ability in vitro but additional experiments remain to be done to confirm results in vivo.

Phosphorylation by PRKG1 at Ser-188 inactivates RHOA signaling.

Ubiquitinated by the BCR(BACURD1) and BCR(BACURD2) E3 ubiquitin ligase complexes, leading to its degradation by the proteasome, thereby regulating the actin cytoskeleton and cell migration.

**Similarity:**

Belongs to the small GTPase superfamily. Rho family.

**SWISS:**

P61586

**Gene ID:**

387

**Database links:**

[Entrez Gene: 387](#) Huma

[Entrez Gene: 11848](#) Mouse

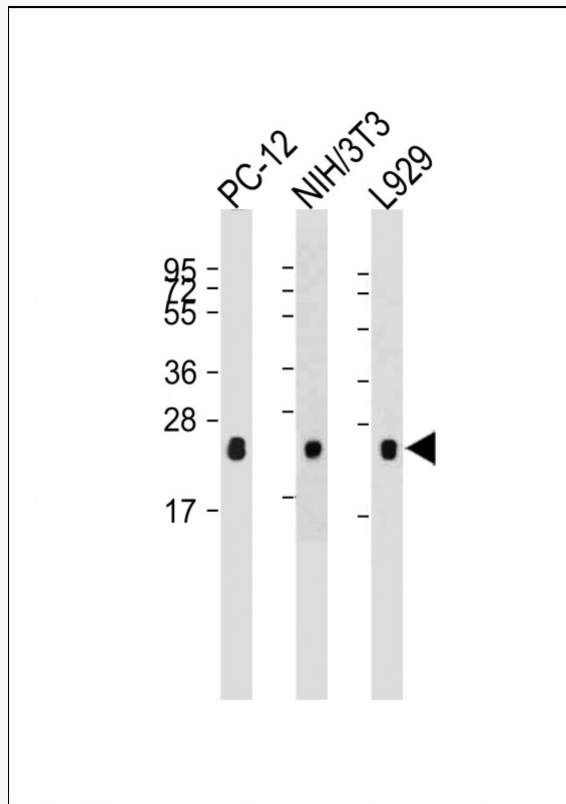
[Entrez Gene: 117273](#) Rat

[SwissProt: P61586](#) Human

[SwissProt: Q9QUI0](#) Mouse

[SwissProt: P61589](#) Rat

**Product Picture**



Sample:

Lane 1: PC-12 cell lysates

Lane 2: NIH/3T3 cell lysates

Lane 3: L929 cell lysates

Primary: Anti-RHOA (SLM-51746M) at 1/160000 dilution

Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution

Predicted band size: 21 kD



SunLong Biotech Co.,LTD  
Tel: 0086-571-56623320 Fax:0086-571-56623318  
E-mail:sales@sunlongbiotech.com  
www.sunlongbiotech.com

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Observed band size: 25 kD