

## RhoA G17A Agarose Beads (Active Rho- GEF)

**CATALOG NUMBER:** STA-431

**STORAGE:** -20°C

**QUANTITY AND CONCENTRATION:** 1.0 mL of 50% Agarose slurry, 0.4 mg/mL RhoA G17A in 1X PBS, 50% Glycerol

**SHELF LIFE:** 1 year from receipt under proper storage conditions; avoid multiple freeze thaw cycles

### **Background**

Small GTP-binding proteins (or GTPases) are a family of proteins that serve as molecular regulators in signaling transduction pathways. Rho, a 21 kDa protein, belongs to the family of Rho GTPases regulating a variety of biological response pathways that include cell motility, cell division, gene transcription, and cell transformation. Like other small GTPases, Rho influences molecular events by cycling between an inactive GDP-bound form and an active GTP-bound form. Cycling between the GDP-bound and GTP-bound state is regulated primarily by two distinct families of proteins: guanine nucleotide exchange factors (GEFs) activate Rho proteins by catalyzing the exchange of GDP for GTP, the GTPase activating proteins or GAPs negatively regulate GTPase function by stimulating GTP hydrolysis.

Similar to Ras mutants, constitutively active or dominant negative Rho GTPase mutants have been used to bind to Rho-GAP and effectors or to Rho-GEFs, respectively. A nucleotide-free GTPase has also been shown to form a high affinity binary complex with Rho-GEFs. RhoA G17A Agarose beads selectively isolate and pull-down the active form of Rho-GEFs from purified samples or endogenous lysates. Subsequently, the precipitated Rho-GEF is detected by western blot analysis using an anti-Rho-GEF antibody.

### **Purity and Activity**

Purity >90% by SDS-PAGE and Coomassie blue staining. Specifically interacts and precipitates active Rho-GEF from cell lysate.

### **References**

1. Arthur, W.T., Ellenbroek, S.M., Der, C.J., and Burrridge K. (2002) *J. Biol. Chem.* **277**, 42964-42972
2. Garcia-Mata R., Wennerberg, K., Arthur, W.T., Noren, N.K., Ellenbroek, S.M., and Burrridge K. (2006) *Methods Enzymol.* **406**, 425-437.

### **Recent Product Citations**

1. Numaga-Tomita, T. et al. (2016). TRPC3-GEF-H1 axis mediates pressure overload-induced cardiac fibrosis. *Sci. Rep.* **6**:39383.
2. Ngok, S. et al. (2013). Phosphorylation-mediated 14-3-3 protein binding regulates the function of the Rho-specific guanine nucleotide exchange factor (RhoGEF) *Syx. J. Biol. Chem.* **288**:6640-6650.

## **Warranty**

These products are warranted to perform as described in their labeling and in Cell Biolabs literature when used in accordance with their instructions. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THIS EXPRESSED WARRANTY AND CELL BIOLABS DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR PARTICULAR PURPOSE. CELL BIOLABS's sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of CELL BIOLABS, to repair or replace the products. In no event shall CELL BIOLABS be liable for any proximate, incidental or consequential damages in connection with the products.

*This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.*

## **Contact Information**

Cell Biolabs, Inc.  
7758 Arjons Drive  
San Diego, CA 92126  
Worldwide: +1 858-271-6500  
USA Toll-Free: 1-888-CBL-0505  
E-mail: [tech@cellbiolabs.com](mailto:tech@cellbiolabs.com)  
[www.cellbiolabs.com](http://www.cellbiolabs.com)

©2013-2017: Cell Biolabs, Inc. - All rights reserved. No part of these works may be reproduced in any form without permissions in writing.