RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

Melissa Gilbert-Ross, Emory University
Adam I Marcus, Emory University
Wei Zhou, Emory University

Journal Title: Genes & Diseases
Volume: Volume 2, Number 1
Publisher: Elsevier | 2015-03, Pages 2-3
Type of Work: Article | Final Publisher PDF
Publisher DOI: 10.1016/j.gendis.2014.10.001
Permanent URL: https://pid.emory.edu/ark:/25593/pqs3x

Final published version: http://dx.doi.org/10.1016/j.gendis.2014.10.001

Copyright information:
© 2014, Chongqing Medical University
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommerical-NoDerivs 3.0 Unported License (http://creativecommons.org/licenses/by-nc-nd/3.0/), which permits distribution, public display, and publicly performance, making multiple copies, provided the original work is properly cited. This license requires copyright and license notices be kept intact, credit be given to copyright holder and/or author. This license prohibits exercising rights for commercial purposes.

Accessed February 16, 2020 1:43 PM EST
RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

RhoA, a novel tumor suppressor or oncogene as a therapeutic target?
mechanisms, such as nonsense or frame-shift mutations in these tumor types. The recurrent nature of RhoA mutations in AITL, PTCL and diffuse-type gastric carcinoma strongly suggests that these hotspot mutations result in a gain-of-function alteration in an unidentified signaling pathway; nevertheless, in the absence of any supporting data, the question still remains whether RhoA is an oncogene or tumor suppressor gene.

From the cancer treatment perspective, the recurrent mutational hotspots of this protein represent ideal targets for small molecule inhibitors as therapeutic reagents. If the RhoA mutants act in a dominant negative fashion, such molecules could disrupt their interaction with the wild-type protein to restore RhoA function. On the other hand, if RhoA mutants are oncogenes, the suppression of their activities by these molecules should inhibit tumorigenesis. In either case, the future development of these therapeutic reagents holds promise for cancer patients with RhoA mutations.

Acknowledgments

The authors declare no conflict of interest. We would like to thank Dr. Anthea Hammond for editing this manuscript. WZ is an Anise McDaniel Brock Scholar, a Georgia Cancer Coalition Distinguished Cancer, and an American Cancer Society Research Scholar.

References


Melissa Gilbert-Ross
Adam I. Marcus
Wei Zhou*

The Winship Cancer Institute, Department of Hematology and Medical Oncology, Emory University School of Medicine, Atlanta, GA 30322, USA

*Corresponding author.
E-mail address: wzhou2@emory.edu (W. Zhou)

4 October 2014