Response to Letter Regarding Article, “MicroRNA-155 Exerts Cell-Specific Antiangiogenic but Proarteriogenic Effects During Adaptive Neovascularization”

We thank Dr Welten and colleagues for taking the time to comment on our recently published article.1

In their letter, Welten and colleagues express concern about the microRNA expression profile after the induction of hind-limb ischemia in mice, which differs in part from their own finding. We would like to point out that the techniques for femoral artery occlusion were different between our studies: We used a surgical ligation of the carefully dissected femoral artery to minimize unspecific trauma, whereas Welten et al used electrocoagulation, which could possibly alter microRNA (miR)-155 expression as a result of an increased inflammatory response. Because the complete microarray data of Welten et al seem not to be publicly available, a direct comparison of the results is difficult. However, our results are similar in that the overall alteration in microRNA expression at day 7 was less pronounced than at earlier time points. In addition, our results show that although miR-155 was among the top downregulated miRNAs at this time point, the overall change in expression was relatively modest (fold change, 0.49), similar to the fold change observed by Welten et al for miR-329. Indeed, in our previously published report on miRNA expression during the early phase of neovascularization at day 3, miR-155 was not among the top regulated genes at this earlier time point.2

We very much appreciate the recent article by Dr Welten and coworkers3 on the role of miR-329, which was published during the review process of our manuscript and was therefore not discussed. Their results show a moderate decrease in mean miR-329 expression levels at day 7, albeit with a large standard deviation, very similar to our own results on this microRNA. Previously, Wang et al4 investigated the role of miR-329 during pathological angiogenesis in oxygen-induced retinopathy, a model that differs greatly from adaptive neovascularization after arterial occlusion.

We feel that the contributions of Dr Welten and colleagues and our own studies demonstrate that microRNA expression levels change very dynamically after femoral artery occlusion and that in the future the investigation of not only the temporal but also the spatial, cell-specific expression pattern will be a prerequisite for the understanding of miRNA function in adaptive neovascularization.

Disclosures

None.

References


(Circulation. 2015;132:e376. DOI: 10.1161/CIRCULATIONAHA.115.018754.)
© 2015 American Heart Association, Inc.
Circulation is available at http://circ.ahajournals.org

DOI: 10.1161/CIRCULATIONAHA.115.018754
Response to Letter Regarding Article, "MicroRNA-155 Exerts Cell-Specific Antiangiogenic but Proarteriogenic Effects During Adaptive Neovascularization"
Franziska Pankratz, Xavier Bentgen, Robert Zeiser, Franziska Leonhardt, Sheena Kreuzaler, Ingo Hilgendorf, Christian Smolka, Thomas Helbing, Imo Hoefer, Jennifer S. Esser, Max Kustermann, Martin Moser, Christoph Bode and Sebastian Grundmann

Circulation. 2015;132:e376
doi: 10.1161/CIRCULATIONAHA.115.018754
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2015 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/132/23/e376

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation is online at:
http://circ.ahajournals.org//subscriptions/