

Indrani Mukherjee, PhD
Science Editor
JoVE

University of Basel
Department of Biomedicine
University Hospital Basel
Hebelstrasse 20
CH-4031 Basel

PD Dr. Gabriela Kuster Pfister, MD
Myocardial Research

Phone	+41 61 328 77 36
Fax	+41 61 265 23 50
Secretariat	+41 61 265 52 14
E-mail	gabriela.kuster@usb.ch

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Revised manuscript 58370-R1 “Induction of endothelial differentiation using cardiac progenitor cells under low serum conditions”

Dear Dr. Mukherjee,

We would like to thank you and the Reviewers for their time and helpful comments to improve our manuscript. The manuscript has been thoroughly revised based on the Reviewers' and Editors' suggestions.

Major changes include:

- We now provide more extensive characterization of the cells after endothelial differentiation. In particular, immunocytochemistry for von Willebrand factor has been performed and representative images are provided in a new Figure 7C and D. In addition, all differentiation experiments were repeated multiple times and more representative results from the tube formation assay are given, whereby in cases of inconsistent results (or less than 100% successful tube formation) the negative outcome data are now provided.
- Important technical details for minor experimental steps have now been added and the workflow leading up to flow cytometry is now illustrated in an additional Figure (new Figure 2). Furthermore, a new Figure Legend to Figure 1 describes each step illustrated in more detail, and in Figure 3 (former Figure 2) the respective experimental steps are indicated.
- The Abstract has been revised to include the purpose, advantages and limitations of the protocol as well as possible applications.
- All protocol steps have been rephrased in the imperative tense and comments that could not be put in imperative tense have been included as “Notes”.

Please note that the illustration of results (now Figure 8) that were obtained within the scope of experiments conducted for the previous paper (Mochizuki et al., J Am Heart Assoc 2017), which was published under a Creative Commons Attribution-NonCommercial-NoDerivs License, was approved by JAHA staff in an e-mail correspondence, which is enclosed as a pdf-file.

The revised version of the manuscript has been approved by all authors, and we hope that it is now acceptable for publication in JoVE.

Thank you very much and kind regards,



Gabriela M. Kuster Pfister, MD