The building blocks for cardiac repair : isolation and differentiation of progenitor cells from the human heart

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Alone we can do so little, together we can do so much (Helen Keller).

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CURRICULUM VITÆ

Asja Moerkamp was born on September 17th, 1987 in Amsterdam, the Netherlands. After graduating from the St. Ignatius Gymnasium (Amsterdam) in 2005, she followed the bachelor Biomedical Sciences at the VU University Amsterdam (2005-2008). In 2008 she started the master Biomolecular Sciences at the same university which she completed in 2010 with the highest distinction.

To pursue her interest in stem cells, she moved in 2009 to Basel (Switzerland) for her first master's research project. At the Friedrich Miescher Institute for Biomedical Research she investigated Notch signaling in the maintenance of stem cell identity. This research was done in the group of Dr. R. Ciosk and under the supervision of Dr. I. Kalchhauser. In 2010 she performed here second master's research project in the group of Prof. dr. H. Clevers in Utrecht. Here, she studied the molecular events within the intestinal stem cell compartment under the supervision of Dr. W.B.M. de Lau.

In 2011 she started her PhD at the department of Molecular Cell Biology of the Leiden University Medical Center, in the group of Prof. dr. Marie-José Goumans. The results of her research are described in this thesis.

LIST OF PUBLICATIONS

1. Kruithof BP, Duim SN, **Moerkamp AT**, Goumans MJ. *TGFβ and BMP signaling in cardiac cushion formation: lessons from mice and chicken.*, Differentiation. 2012; 84(1):89-102.

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6. **Moerkamp AT**, Leung HW, Bax NAM, Holst S, Lodder K, Berends T, Dingenouts CKE, Choo A, Smits AM, Goumans MJ. *Glycosylated cell surface markers for the isolation of human cardiac progenitors.*, Stem Cells Dev. 2017; 26(21):1552-1565.

7. Dronkers E, **Moerkamp AT**, van Herwaarden T, Goumans MJ, Smits AM. *The isolation and culture of primary epicardial cells derived from human adult and fetal heart specimens.*, JoVE 2017.

8. Dingenouts CKE, Bakker W, Lodder K, Wiesmeijer CC, **Moerkamp AT**, Maring JA, Arthur HM, Smits AM, Goumans MJ. *Inhibiting DPP4 in a mouse model of HHT1 results in a shift towards regenerative macrophages and reduces fibrosis after myocardial infarction.*, PLoS One. 2017; 12(12).

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10. Bakker W, Dingenouts CKE, Lodder K, Wiesmeijer CC, **Moerkamp AT**, Mager HJ, Snijder R, Westerman K, Goumans MJ. *BMP inhibition in Endoglin deficient mice increases cardiac function and regulates M1/M2 macrophage polarization in synergy with TGFβ signaling.*, Submitted.

Manuscripts in preparation

11. **Moerkamp AT**, Lodder K, Kurakula KB, Goumans MJ. *The role of TGFβ and miR-424 in human cardiac progenitor to cardiomyocyte differentiation.*

12. **Moerkamp AT**, Dronkers E, van Herwaarden T, Lodder K, Goumans MJ, Smits AM. *Fetal versus adult human epithelial to mesenchymal transition of human epicardial derived cells.*

13. **Moerkamp AT**, Lodder K, Kruithof-de Julio M, Goumans MJ. *Derivation of ES, TS and XEN cells from one Blastocyst.*

14. **Moerkamp AT**, Leung HW, Lodder K, Smits AM, Choo A, Goumans MJ. *Novel monoclonal antibody C573 for the isolation of human cardiac progenitor cells.*

15. Dingenouts CKE, **Moerkamp AT**, Lodder K, Kurakula KB, Bakker W, Höfer IE, Maring JA, Arthur HM, Smits AM, Goumans MJ. *Topical application of / DPP4 inhibition enhances wound healing in endoglin heterozygous mice.*

16. Maring JA, Lodder K, Dingenouts CKE, **Moerkamp AT**, Verhage V, Deddens JC, Sluijter JPG, Smits AM, Goumans MJ. *Exosomes from cardiomyocyte progenitor cells reduce infarct size and increase proliferation in the infarcted area.*

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Journal Covers

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