

Influencing the homing and differentiation of MNCs in hereditary hemorrhagic telangiectasia

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Citation

Dingenouts, C. K. E. (2019, February 27). *Influencing the homing and differentiation of MNCs in hereditary hemorrhagic telangiectasia*. Retrieved from https://hdl.handle.net/1887/69046

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Issue Date: 2019-02-27

Acknowledgements

In this final section of my thesis I would like to express my thanks and gratitude to all who have helped and supported me during my PhD project.

Dear Prof. Goumans, Marie-José, thank you for taking me on as a PhD student, and training me to become versatile researcher. You have inspired me and I have learned a lot with you as a role model

Wineke, thank you for your mentorship and guidance, which you continued even after you left the LUMC. I always felt encouraged by your words and supported by having you as a co-promotor.

What made my Phd extra special, is that with me, the 6 months before that, Asja, Sjoerd, and José had also started their PhDs. We quickly bonded, and as we formed our PhD-kindred spirits group, Kirsten (or Kirstie -as I have named you), you naturally became our group core center and parental supervisor, and the movie-nights, tea-times, dinners, movie outings, city trips and many more we had during my PhD were invaluable. You are a great technician and colleague. I'm happy we kept our bond and may we continue this way forward.

Dear Sjoerd, you were my office-buddy for most of the 5 years I spent as a PhD. Your enthusiasm, humor and energy were amazing and you never made being at the lab or office boring. From playing (and singing to-) 'foute muziek', pulling pranks with dry ice, and discussing science and the meaning of life, I will never forget working with you. Thank you for everything, I'm sure I'll never have a colleague quite like you again.

Dear Asja, or as we named you, 'Buuf', we had an amazing time as colleagues, and continue as friends. Even though you now live in Switzerland, we keep in touch though our group-chat every day, and I'm so happy for it. You are a great scientist, and your kindness, down-to-earth view on things and your dry-wit humor is amazing. We went through some tough times, and I value your support and friendship so much. Thank you for everything.

Dear José, 'Goseetje', my dear travel-buddy and fellow-bunny owner, we have an amazing friendship which is hard to translate onto paper. Thank you so much for your friendship, support, creating a 'foute vrijdag' and all the fun times, during and after our PhD. You are a great scientist as well, and I'm so proud of your hard work. I love our tea-times, travels, and Starbucks trips. We have several travel ideas for the coming years, I already look forward to them.

Of course I would like to thank all other colleagues from the MCB-STAR group; Anke, Babu, Boudewijn, Laurens, Vera, Annemarie, Tessa, Karien and my student Joyce. Thank you for your friendship, collaborations, expertise, advise and insights.

Furthermore I'd like to thank:

My collegues of CCB, especially Willem, Gerard, Joop, Annelies, Julia and Steve. Prof. Hans Tanke, Prof. Peter ten Dijke and the people in his group, especially: Midory, Maarten, Gonzalo and Amaya.

My colleagues of INZI, and especially my K5 colleagues Krista, Cassandra, Paula, Anne, Matthias, Frank, Roel, Mariateresa, Maria, Arthur, Susan, Suus, Kimberley, Louis, Edwin and Anouk, thank you for your friendship, lifting my spirits and supporting me during the

final phases of my PhD. Of course my extended thanks to Tom and Simone, thank you so much for allowing me to finish up my PhD while working in your research team. It has been amazing and I have learned so much in this time as a postdoc.

My dear friends Mirjam, Emma and Inge, and from 'Leiden' my friends Edith and Lotte, from Sydney Steff, thank you for you friendship and support all these years!

Claire, you and your family, Quinte, Tymo and Yoënne are as close to me as my own family. We call each other 'Zus' and that is what our friendship represents. I care about you so much, and thank you for always being there for me.

Lieve pa en ma, natuurlijk mogen jullie niet ontbreken in dit dankwoord; bedankt voor jullie onvoorwaardelijke steun en liefde, jullie trots maakt deze reis het allemaal waard!

Curriculum vitae

Calinda Dingenouts was born on October 21st, 1986 in the city of Vlaardingen, the Netherlands. She graduated from the Schravenlant Lyceum (Schiedam) in 2005. In 2008, she obtained her Bachelor's diploma in Biomedical Sciences at Leiden University, Leiden, the Netherlands. As part of her study she did an internship at the department of Immunology, Erasmus Medical Centre, Rotterdam, the Netherlands. Here, she focused on the optimization of gene therapy for patients with RAG 1 and 2 Severe Combined Immunodeficiency, working with Dr. Karin Pike-Overzet and Mark Rodijk in Prof. Dr. Frank Staal's group.

In 2009, she followed the master Biomedical Sciences at Leiden University and obtained her Master's diploma in 2011. During her first Junior Research Project she joined the group of Dr. Niels De Wind, and under supervision of Dr. Giel Hendriks she studied the mechanisms involved in transcription-associated mutagenesis in mammalian stem cells, at the department of Toxicogenetics, Leiden University Medical Centre, Leiden, the Netherlands.

For her second Junior Research Project she joined the group of Prof. Dr. Antony Cooper, under additional guidance of Stephanie Kong and Kathryn Hill. She investigated the role of LRRK2 and alpha-synuclein in Parkinson's disease at the department of Diabetes and Obesity, the Garvan Institute of Medical Research, Sydney, Australia. This project was supported with individual grants by the Princess Beatrice Fund, the Leiden University Fund and the Leiden University 'Outbound Study' grant.

In 2012 she started her PhD studies in the group of Prof. Dr. Marie-José Goumans at the department of Molecular Cell Biology (now Cell and Chemical Biology) at the Leiden University Medical Center under the supervision of Dr. Wineke Bakker. The results of this work are presented in this thesis.

In 2017 she was appointed as a Post-doctoral scientist at the department of Infectious Diseases at the Leiden University Medical Center. Joining the group of Prof. Dr. Tom Ottenhoff and under supervision of Associate Prof. Dr. Simone Joosten, she is working on vaccine development for tuberculosis by characterizing specific T-cell subsets in patients with latent tuberculosis infection.

List of publications

- 1. Dingenouts C.K.E., Goumans M.J. and Bakker W. Mononuclear *cells and vascular repair in HHT*. Frontiers in Genetics. 2015 Mar 23;6:114. doi: 10.3389/fgene.2015.00114. eCollection 2015.
- Dingenouts C.K.E., Bakker W., Lodder K., Wiesmeijer K.C., Moerkamp A.T., Maring J.A., Arthur H.M., Smits A.M., Goumans M.J. Inhibiting DPP4 in a mouse model of HHT1 results in a shift towards regenerative macrophages and reduces fibrosis after myocardial infarction. PLoS One. 2017 Dec 18;12(12):e0189805. doi: 10.1371/ journal.pone.0189805. eCollection 2017.
- 3. Moerkamp A.T., Lodder K., van Herwaarden T., Dronkers E., Dingenouts C.K.E., Tengström F.C., van Brakel T.J., Goumans M.J., Smits A.M. *Human fetal and adult epicardial-derived cells: a novel model to study their activation.* Stem Cell Res Ther. 2016 Nov 29;7(1):174.
- 4. Moerkamp A.T., Leung H.W., Bax N.A.M., Holst S., Lodder K., Berends T., Dingenouts C.K.E., Choo A.B.H., Smits A.M., Goumans M.J. *Glycosylated cell surface markers for the isolation of human cardiac progenitors*. Stem Cells and Development. 2017 Sep 11. do: 10.1089/scd.2017.0048.
- 5. Maring J.A., Lodder K., Mol E., Verhage V., Dingenouts C.K.E., Moerkamp A.T., Wiesmeijer C.C., Deddens J.C., Vader P., Smits A.M., Sluijter J.P.G., Goumans M.J. Cardiac Progenitor Cell-Derived Extracellular Vesicles Reduce Infarct Size and Associate with Increased Cardiovascular Cell Proliferation. J Cardiovasc Transl Res. 2018 Nov 19. doi: 10.1007/s12265-018-9842-9.

Manuscripts submitted or in preparation

- 6. Dingenouts C.K.E.*, Moerkamp A.T.*, Lodder K., van Herwaarden T., Végh A.M.D., Dronkers E., Kruithof B.P.T., Wiesmeijer K.C., Maring J.A., Kruithof B.P.T., Arthur H.M., Goumans M.J., Smits A.M. *Endoglin deficiency alters the epicardial response following myocardial infarction.*
- 7. Dingenouts C.K.E.*, Bakker W.*, Lodder K., Wiesmeijer K.C., Moerkamp A.T., Mager H.J., Snijder R., Westerman C.C.J., de Vries M. R., Quax P.H.A., Goumans M.J. *BMP receptor inhibition enhances tissue repair in endoglin heterozygous mice*.
- 8. Dingenouts C.K.E., Lodder K., Moerkamp A.T., Kurakula K.B., Bakker W., Hoefer I.E., Arthur H.M., Goumans M.J. DPP4 inhibition enhances wound healing in endoglin heterozygous mice through modulation of macrophage signaling and differentiation.

^{*}Both authors contributed equally