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Title: Fluorescent gene reporters in human pluripotent stem cells : as model for studying human heart development and cardiomyocyte differentiation

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CURRICULUM VITAE

Sabine Charlotte Den Hartogh was born on July 16th, 1987 in Nijkerk, a small village on the Veluwe, the Netherlands. In 2005, she graduated at Meerwegen College Farel in Amersfoort. In that same year, she started her studies Biomedical Sciences at the Graduate School of Life Sciences, Utrecht University.

She was introduced to the field of stem cell biology for the heart when she carried out an internship in the laboratory of Prof. dr. Deepak Srivastava at the Gladstone Institute in San Francisco, where she studied the role of MicroRNA-24 in cardiomyocyte survival upon transplantation in the heart, under supervision of dr. Li Qian and dr. Linda van Laake. Then, she returned to Utrecht where she wrote a review on cellular therapy of the heart, in collaboration with dr. Linda Van Laake at the UMC Utrecht, to finally obtain her Master of Science degree in April 2011.

In May 2011, she joined the lab of Dr. Robert Passier as a PhD-candidate, at the department of Anatomy and Embryology of Leiden University Medical Centre, headed by Prof. dr. Christine Mummery. Here, she published several studies and a review on the generation of human embryonic stem cell reporter lines in order to understand cardiac development and to optimize cell culture conditions for directed differentiation towards cardiomyocyte (progenitor) subtypes for pharmaceutical applications and/or regenerative medicine.

Since October 2015, she is applying her in-depth knowledge of cardiovascular biology in a translational matter by starting on a position at Pluriomics, a biotechnology start-up company in Leiden Bioscience Park, focusing on the development of cardiovascular cell-based assays for cardiac safety pharmacology and drug discovery.

LIST OF PUBLICATIONS

Cao L, **den Hartogh SC**, Verbeek FJ, Passier R. Automatic image analysis for distinction of cell division based on eGFP-Anillin signal in human MESP1 progenitors. *Submitted*.

Den Hartogh SC, Wolstencroft K, Mummery CL, Passier R. A comprehensive gene expression analysis at sequential stages of in vitro cardiac differentiation from isolated MESP1-expressing-mesoderm progenitors. *Scientific Reports* **6**, 2016. doi:10.1038/srep19386

Den Hartogh SC, Passier R. Concise Review: Fluorescent reporters in human pluripotent stem cells: contributions to cardiac differentiation and their applications in cardiac disease and toxicity. *Stem Cells*. 2016 Jan;34(1):13-26. doi: 10.1002/stem.21962015.

Birket MJ, Ribeiro MC, Verkerk AO, Ward D, Leitoguinho AR, **Den Hartogh SC**, Orlova VV, Devalla HD, Schwach V, Bellin M, Passier R, Mummery CL. Expansion and patterning of cardiovascular progenitors derived from human pluripotent stem cells. *Nat Biotechnol*. 2015 Jul 20.

Den Hartogh SC, Schreurs C, Monshouwer-Kloots JJ, Davis RP, Elliott DA, Mummery CL, Passier R. Dual reporter MESP1 mCherry/w-NKX2-5 eGFP/w hESCs enable studying early human cardiac differentiation. *Stem Cells*. 2015 Jan;33(1):56-67

Hartogh Den SC, Sluijter J, Van Laake LW, et al. Chapter 11. Cellular therapy for the infarcted myocardium. In: *Translational Cardiology: Molecular Basis of Cardiac Metabolism, Cardiac Remodeling, Translational Therapies, and Imaging Techniques*. Cam Patterson, Monte Willis. Springer; 2012.

SCIENTIFIC AWARDS

Recipient van Wijck-Stam-Caspers award, 2010