



**Universiteit
Leiden**
The Netherlands

Developmental cell lineage dynamics in Bicuspid Aortic Valve disease

Peterson, J.C.

Citation

Peterson, J. C. (2022, September 13). *Developmental cell lineage dynamics in Bicuspid Aortic Valve disease*. Retrieved from <https://hdl.handle.net/1887/3455679>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3455679>

Note: To cite this publication please use the final published version (if applicable).

List of publications

Peterson JC, Kelder TP, Goumans MJTH, Jongbloed MRM, DeRuiter MC. The Role of Cell Tracing and Fate Mapping Experiments in Cardiac Outflow Tract Development, New Opportunities through Emerging Technologies. *J Cardiovasc Dev Dis*. 2021 Apr 26;8(5):47. doi: 10.3390/jcdd8050047. PMID: 33925811; PMCID: PMC8146276.

Peterson JC, Deruiter MC. Fluorescent Nuclei Measurements Macro (FNMM), a tool for automated cell quantification in ImageJ. *Software Impacts*. 2020; 6. 100030. doi: 10.1016/j.simpa.2020.100030.

Peterson JC, Chughtai M, Wisse LJ, Gittenberger-de Groot AC, Feng Q, Goumans MTH, VanMunsteren JC, Jongbloed MRM, DeRuiter MC. Bicuspid aortic valve formation: Nos3 mutation leads to abnormal lineage patterning of neural crest cells and the second heart field. *Dis Model Mech*. 2018 Oct 19;11(10):dmm034637. doi: 10.1242/dmm.034637. PMID: 30242109; PMCID: PMC6215433.

Peterson JC, Wisse LJ, Wirokromo V, van Herwaarden T, Smits AM, Gittenberger-de Groot AC, Goumans MTH, VanMunsteren JC, Jongbloed MRM, DeRuiter MC. Disturbed nitric oxide signalling gives rise to congenital bicuspid aortic valve and aortopathy. *Dis Model Mech*. 2020 Sep 28;13(9):dmm044990. doi: 10.1242/dmm.044990. PMID: 32801116; PMCID: PMC7541347.

Gittenberger-de Groot AC, **Peterson JC**, Wisse LJ, Roest AAW, Poelmann RE, Bökenkamp R, Elzenga NJ, Hazekamp M, Bartelings MM, Jongbloed MRM, DeRuiter MC. Pulmonary ductal coarctation and left pulmonary artery interruption; pathology and role of neural crest and second heart field during development. *PLOS ONE*. 2020 May 15;15(5):e0228478. doi: 10.1371/journal.pone.0228478. PMID: 32413023; PMCID: PMC7228067.

Honkoop H, de Bakker DE, Aharonov A, Kruse F, Shakked A, Nguyen PD, de Heus C, Garric L, Muraro MJ, Shoffner A, Tessadori F, **Peterson JC**, Noort W, Bertozzi A, Weidinger G, Posthuma G, Grün D, van der Laarse WJ, Klumperman J, Jaspers RT, Poss KD, van Oudenaarden A, Tzahor E, Bakkers J. Single-cell analysis uncovers that metabolic reprogramming by ErbB2 signaling is essential for cardiomyocyte proliferation in the regenerating heart. *Elife*. 2019 Dec 23;8:e50163. doi: 10.7554/eLife.50163. PMID: 31868166; PMCID: PMC7000220.

Gjini E, Jing CB, Nguyen AT, Reyon D, Gans E, Kesarsing M, **Peterson JC**, Pozdnyakova O, Rodig SJ, Mansour MR, Joung K, Look AT. Disruption of *asx1* results in myeloproliferative neoplasms in zebrafish. *Dis Model Mech*. 2019 May 7;12(5):dmm035790. doi: 10.1242/dmm.035790. PMID: 31064769; PMCID: PMC6550042.

Plomp, E. and **Peterson, JC**. IsoMAPNL, v1.0.0, Zenodo. 2020. doi: zenodo.3941066.

Curriculum Vitae

Joshua C. Peterson was born on March 10th, 1990 in Utrecht, The Netherlands. In 2007 he was accepted at the Institute for Life Science & Chemistry at the Hogeschool Utrecht where he specialized in Biomolecular Research. After completing a primary internship at the Dutch Cancer Institute – Antoni van Leeuwenhoek hospital (NKI-AVL) under the supervision of Kees Jalink, and a secondary intership at the Hubrecht Institute in the lab of Niels Geijsen he obtained his BSc in 2011. He continued his studies by enrolling into the master program, Cancer Genomics and Developmental Biology at the University of Utrecht that same year. After completing a secondary research project at the Hubrecht Institute in the group of Jeroen Bakkers, and a minor research project at Dana-Farber Cancer Institute in Boston MA, United States he successfully completed his master program in 2014. Later that year Joshua started a Ph.D. project in the group of Prof. dr. Marco C. de Ruiter at the department of Anatomy and Embryology at the Leiden University Medical Center (LUMC), Netherlands. His research focused on understanding the role of developmental cell lineage dynamics that underly bicuspid aortic valve disease. The results of this work are described in this thesis. He took an opportunity to build experience as an executive secretary of the animal welfare body at LUMC. Currently, he is working as an bioinformatician at the lab of Alexander van Oudenaarden at the Hubrecht Institute, The Netherlands.

