

Curriculum Vitae

Dr. Jochen Maurer



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Personal data

Date of Birth: 02/03/1976
Place of Birth: Birkenfeld, Germany
Nationality: German
Marital status: Married, 3 kids

Education

12/2006 Ph.D. in biological sciences (genetics) Grade 1,0 (magna cum laude), University of Bonn, Germany
10/2002 Diploma, Grade: B (1,6) (Masters of Science), University of Karlsruhe, Germany
06/1999-08/2000 Academic exchange year, University of Oregon, USA
10/1997-9/2002 Study of Biology, University of Karlsruhe, Karlsruhe, Germany
8/1996-9/1997 Zivildienst, General Hospital St. Wendel, Germany, Certified EMT
8/1986-7/1996 Gymnasium Wendalinum, St. Wendel, Germany, Abitur (1.6)

Awards and Honors

10/2008 Winner of the Fishman Award, Sanford-Burnham Medical Research Institute

Funding

- 6/2010-6/2013 Department of Defense Postdoctoral Fellowship (BC093655), independent research grant “*Establishment, Analysis, and Differentiation of Basal-Like Breast Cancer Stem Cells*” (320,000\$ with overhead for 3 years)
- 1/2014-12/1017 Member of SFB850, Project C8: “Role of EMT and cellular motility in cancer stem cells isolated from triple negative breast cancer” (480,000€)
- 1/2016-12/2017 ChemMon3D – novel 3D models of cancer replacing animal models. Funding through Land Baden-Württemberg (160,000€) together with AG Urban (IMTEK)
- 1/2017-6/2017 Bridge-funding (Forschungskommission Freiburg): Postdoctoral position with lab funds to evaluate the effects of Histone deacetylase inhibitor Methylstat on breast cancer stem cells (35,000€)

Professional experience

- 1/2017-present Groupleader Molecular Oncology in the department of Surgery, University hospital Freiburg. Own laboratory in the ZTZ (Zentrum für Translationale Zellforschung): 1 Postdoc, 2 grad students and 2 BTAs, 1 Master student.
- Main focus: Isolation and characterization of cancer stem cells from triple negative breast cancer, pancreatic cancer and colorectal cancer
 - Isolation of 30-40 new patient cancer stem cell lines per year
 - Screening of epigenetic inhibitors influencing stem cell behaviour and maintenance
 - Differentiation therapy on cancer stem cells
- 6/2013-12/2016 Junior groupleader in the DKTK Forschungsverbund at the Partnerstandort Freiburg. Own laboratory at the University hospital Freiburg/ZTZ (2 Postdoc, 2 grad students and 2 BTAs, 1 Master student).
- Main focus: Isolation and characterization of cancer stem cells from triple negative breast cancer and pancreatic cancer
 - Isolation of 20-30 new patient cancer stem cell lines per year
 - Differentiation therapy on cancer stem cells
 - Screening of agents influencing stem cell behaviour and maintenance
 - providing a platform for pharmaceutical industry and academia to test new anti-cancer therapeutics

- 7/2008 – 5/2013 Postdoctoral position in the laboratory of Prof. Dr. Robert Oshima at the Sanford-Burnham Medical Research Institute.
- Main focus: “Identification of mammary cancer stem cells, biology and development of mammary cancer”
 - Established a cancer stem cell in vitro model from MMTV-Wnt1 mice
 - Showed that this model serves as a model for EMT in vitro
 - Used this model to screen a Kinase library identifying compounds that influence cancer stem cell fate decisions
- 5/2007- 6/2008 Postdoctoral position in the laboratories of Prof. Dr. Evan Snyder and Dr. Dave Larocca at the Sanford-Burnham Medical Research Institute.
- Main foci: “Characterization of neural crest stem cells from human embryonic stem cells and mouse embryonic tissue” and “Identification of surface antigens identifying early precursor populations in human embryonic stem cell cultures using the Phage recovery technique”.
 - Established a technique to generate human neural crest stem cells from human embryonic stem cells
 - Utilized these cells to generate neural crest stem cell progeny by induced differentiation
- 11/2002-12/2006 Ph.D. thesis in the laboratory of Prof. Dr. Hubert Schorle at the Institute of Pathology, University of Bonn, Germany.
- Establishment and analysis of a neural crest stem cell line (JoMa1) by using a conditional transgenesis”.
- 1/2002-9/2002 Diploma thesis: “Establishment of a system to immortalize, differentiate and *in vivo* detect murine neural crest stem cells“, external thesis at the Institute of Pathology, University of Bonn
- 06/1999-08/2000 Academic year as part of an exchange program of the foreign exchange office of the University of Karlsruhe. Stipend to study neuroblast differentiation in *Drosophila melanogaster* with special interest in the localization of Dlg-1 (Discs large 1) in the laboratory of Dr. Chris Doe, Institute of Neuroscience, University of Oregon, Eugene, USA.
- 10/1996
(TH), Germany
-12/2001 Biology Undergraduate Training at the University of Karlsruhe

Research interest

- Cancer biology with a focus on in vitro modelling of human mammary and pancreatic cancer

- Cancer stem cells and EMT
- Identification of genetic and epigenetic factors that influence the balance between „stemness“ and differentiation

Memberships

- Member of the American Academy of Science (AACS) since 2011
- Member of the American Association for Cancer Research (AACR) since 2009
- Member of TEMTIA since 2013
- Member of GSCN since 2014
- Member of Basel Breast Cancer Consortium since 2015

Teaching experience

2001- 2006	Teaching assistant: Undergraduate course of techniques in Molecular biology, Laboratory practical supervision and lectures
2006	Supervision of a BSc project on Neural Crest Stem Cells
4/2009	Supervision of a group of Highschool students in laboratory training
6/2009-8/2009	Supervision of an Internship “3D imaging of mammary cancer stem cells”
2010-2011	Supervision of an undergraduate research assistant (Elaine Chun) and her project: “Cancer Stem Cell markers in PyMT tumor cells”
2011-2012	Supervision of a bachelor level research assistant (Kelly Fogarty) and her project: “Cancer Stem Cell biology”.
2013WS	Teaching undergraduate course (3 rd semester) in Molecular Biology at the University of Freiburg, entailing introduction into gene manipulation and cloning
2014WS	Teaching undergraduate course (3 rd semester) in Molecular Biology at the University of Freiburg, entailing introduction into gene manipulation and cloning
2014WS	Lecture for Bachelor students, curriculum “Special topics in molecular biology”

1/2014-present	Supervision of the PhD thesis of Juliane Strietz entitled: "Role of EMT and cellular motility in cancer stem cells isolated from triple negative breast cancer"
1/2014-present	Supervision of the PhD thesis of Stella Stepputtis entitled: "Isolation, characterization and pharmacological treatment of cancer stem cells from triple negative breast cancer patients"
2015WS	Teaching undergraduate course (3 rd semester) in Molecular Biology at the University of Freiburg, entailing introduction into gene manipulation and cloning
2015WS	Lecture for Bachelor students, curriculum "Special topics in molecular biology"
3/2016-7/2016	Supervision of the bachelor thesis of Johannes Alexander Jaennicke entitled: "Biological efficacy of some standard chemotherapeutics and novel compounds on primary cancer stem cells"
3/2016-11/2016	Supervision of the Master thesis of Stefan Jäger entitled: "Identification of novel therapeutics targeting selectively cancer stem cells from triple negative breast cancer"
2016WS	Lecture for Bachelor students, curriculum "Special topics in molecular biology"

Coursework and Certifications

1996	Certified EMT
2007	Basic and advanced courses in lab and people management
2013	Certified Project leader (Gentechnik) Felasa-B Labsafety management
2017	Teaching course, MQ-1 Basis

University Services

1997-1998	Teaching assistant to Prof. Dr. Paulsen, Institute of Zoology, University of Karlsruhe
2000	Assistant in the laboratory of Prof. Lerchl, Institute of Zoology, University of Karlsruhe

“Cloning of the of melanopsin, the non-rod, non-cone photopigment of the mammalian circadian clock, from Djungarian hamsters (*Phodopus sungorus*)”

2016-2017 Member of the animal welfare review board

Extracurricular activities

2004-2006 Founder of the BFB-Tech-Forum

- an internet-forum- and regular meeting based platform to share experiences in research between Ph.D. students and Postdoctoral fellows of Medicine and Biology departments at the University of Bonn

2007-2013 Member of the Burnham Science Network

2012 Advisor on murine transplantation techniques for Aragon Pharmaceuticals

Spare time activities: Literature, Cooking and Sports (Scuba diving, Long-distance-running and Golf)

Publications

First and Co-first authorships

1. Jäger R, **Maurer J** & Schorle H. (2003) Conditional immortalization of Mouse Neural Crest Stem Cells. *Eur J Cell Biol*; Abstracts Suppl. 53, Vol.82.
2. Jäger R and **Maurer J**, Jacob A, Schorle H. (2004) Cell type-specific conditional regulation of the c-myc protooncogene by combining Cre/loxP recombination and tamoxifen-mediated activation. *Genesis*; 38(3): 145-50.
3. **Maurer J**, Fuchs S, Jäger R, Kurz B, Sommer L, Schorle H. (2007) Establishment and analysis of a neural crest stem cell line (JoMa1) using conditional transgeneis. *Differentiation*; 75(7): 580-591.
4. **Maurer J**, Nelson B, Ceceña G, Bajpai R, Mercola M, Terskikh A and Oshima RG. (2008) Contrasting expression of keratins in mouse and human embryonicstem cells. *PlosOne*; 3(10):e3451.
5. Curchoe CL and **Maurer J**, McKeown SJ, Cattarossi G, Cimadamore F, Nilbratt M, Snyder EY, Bronner-Fraser M, Terskikh AV. Early Acquisition of Neural Crest Competence During hESCs Neuralization, *PLoS ONE*: Research Article, published 09 Nov 2010.10.1371/journal.pone.0013890
6. Castro DJ, **Maurer J**, Hebbard, L., & Oshima, R. G (2013). ROCK1 inhibition promotes the self-renewal of a novel mouse mammary cancer stem cell. *Stem Cells* (Dayton, Ohio), 31(1), 12-22. doi:10.1002/stem.1224

Last and Co-last authorships

7. Strietz J, Stepputtis SS, Preca BT, Vannier C, Kim MM, Castro DJ, Au Q, Boerries M, Busch H, Aza-Blanc P, Heynen-Genel S, Bronsert P, Kuster B, Stickeler E, Brabletz T, Oshima RG, **Maurer J**. ERN1 and ALPK1 inhibit differentiation of bi-potential tumor-initiating cells in human breast cancer. *Oncotarget*. 2016 Dec 13;7(50):83278-83293. doi: 10.18632/oncotarget.13086.
8. Preca BT, Bajdak K, Mock K, Lehmann W, Sundararajan V, Bronsert P, Matzge-Ogi A, Orian-Rousseau V, Brabletz S, Brabletz T, **Maurer J**, Stemmler MP. A novel ZEB1/HAS2 positive feedback loop promotes EMT in breast cancer. *Oncotarget*. 2017 Feb 14;8(7):11530-11543. doi: 10.18632/oncotarget.14563.
9. Metzger E, Stepputtis SS, Strietz J, Preca BT, Urban S, Willmann D, Allen A, Zenk F, Iovino N, Bronsert P, Proske A, Follo M, Boerries M, Stickeler E, Xu J, Wallace MB, Stafford J, Kanouni T, **Maurer J** and Schüle R. KDM4 inhibition targets breast cancer stem cells. *Cancer Research* (2017), in press

Additional authorships

10. Hermann R, Poppe L, Pilbak S, Boden C, **Maurer J**, Weber S, Lerchl A. (2005) Predicted 3D-structure of melanopsin, the non-rod, non-cone photopigment of the mammalian circadian clock, from Djungarian hamsters (*Phodopus sungorus*). *Neurosci Lett*; 376(2): 76-80.
11. Kretz M, Eckardt D, Krüger O, Kim JS, **Maurer J**, Theis M, Schorle H, Willecke K. (2006) Normal embryonic development and cardiac morphogenesis in mice with Wnt1-Cre mediated deletion of connexin43. *Genesis*; 44(6): 269-276.
12. Bohrer, A. M., Schramm, A., **Maurer, J.**, Schorle, H., Astrahantseff, K., Eggert, A., & Schulte, J. H. (2008, May). JoMa1-a model to analyze neural crest stem cells in-vitro. In *Klinische Pädiatrie* (Vol. 220, No. 3, pp. 199-199
13. Cabral-Teixeira J, Talsky K, Zhang L, **Maurer J**, Tsuda M, Chao YS, Prigozhina N, Price J, Snyder E, Mercola M, Ruoslahti E, West MD, Larocca D (2008) Targeting nanoparticle probes to differentiating stem cells. *NSTI-Nanotech 2008*, ISBN 978-1-4200-8504-4 (Vol.2, pp. 430-433)
14. Bohrer, A. M., E. Mahlow, **Maurer J**, H. Schorle, A. Schramm, A. Eggert, and J. H. Schulte. "N-myc induces transformation of neural crest stem cells in vitro and in vivo." *Klinische Pädiatrie* 221, no. 03 (2009): A5.
15. Schulte J, Bohrer A, Mahlow E, **Maurer J**, Schorle H, De Preter K, Vandesompele, J, Speleman F, Schlierf S, Pajtler K, Schramm A, Eggert A (2009). Modeling neuroblastomagenesis from neural crest stem cells in vitro and in vivo. *Pediatric Blood & Cancer* (Vol. 53, pp. 703–704). Hoboken: WILEY-LISS
16. Hebbard L, **Maurer J**, Amber M, Lesperance J, Hassell JA, Oshima RG, Terskikh A. (2010) MELK is Upregulated and Required in Mammary Tumor Initiating Cells In Vivo. *Cancer Research* 2010 Sep 22.
17. Pajtler, K., Bohrer, A., **Maurer, J.**, Schorle, H., Schramm, A., Eggert, A., Schulte, J. H., Production of Chick Embryo Extract for the Cultivation of Murine Neural Crest Stem Cells <http://www.jove.com/details.stp?id=2380> doi: 10.3791/2380. *J Vis Exp*. 45 (2010).

18. Lindner, S., Schulte, J. H., Bohrer, A., **Maurer, J.**, DePreter, K., Lefever, S. & Schramm, A. (2011). Neuroblastoma develops from neural crest stem cells. *Klinische Pädiatrie*, 223(03), A21.
19. Steinmetz N.F., **Maurer J.**, Sheng H., Bensussan A., Maricic I., Kumar V., Braciak T.A. Two Domains of Vimentin Are Expressed on the Surface of Lymph Node, Bone and Brain Metastatic Prostate Cancer Lines along with the Putative Stem Cell Marker Proteins CD44 and CD133. *Cancers*. 2011; 3(3):2870-2885.
20. Murphy DA, Diaz B, Bromann PA, Tsai JH, Kawakami Y, **Maurer J**, Stewart RA, Izpisua-Belmonte JC, Courtneidge SA (2011) A Src-Tks5 Pathway Is Required for Neural Crest Cell Migration during Embryonic Development. *PLoS ONE* 6(7): e22499. doi:10.1371/journal.pone.0022499
21. Schulte JS, Lindner S, Bohrer A, **Maurer J**, DePreter K, Lefever S, Heukamp L, Schulte S, Molenaar J, Versteeg R, Thor T, Kunkele A, Vandesompele J, Speleman F, Schorle H, Eggert A, Schramm A. MYCN and ALKF1174L are sufficient to drive neuroblastoma development from neural crest progenitor cells. *Oncogene*. 2013 Feb 21;32(8):1059-65. doi: 10.1038/onc.2012.106. Epub 2012 Apr 9.
22. Preca BT, Bajdak K, Mock K, Sundararajan V, Pfannstiel J, **Maurer J**, Wellner U, Hopt UT, Brummer T, Brabletz S, et al. A self-enforcing CD44s/ZEB1 feedback loop maintains EMT and stemness properties in cancer cells. *Int J Cancer*. 2015 Dec 1;137(11):2566-77. doi: 10.1002/ijc.29642. Epub 2015 Jun 30.
23. Enderle-Ammour K; Bader M; Ahrens TD; Franke KU; Timme S; Csanadi A; Hoepfner J; Kulemann B; **Maurer J**; Reiss CP; Schilling O; Keck T; Brabletz T; Stickeler E; Werner M; Wellner UF; Bronsert P. Form Follows Function - Morphological and Immunohistological Insights Into EMT Characteristics of Tumorbuds. *Tumour Biol*. 2017 May;39(5):1010428317705501. doi: 10.1177/1010428317705501.
24. Allam A, Thomsen AR, Gothwal M, Saha D, **Maurer J**, Brunner TB. Pancreatic stellate cells in pancreatic cancer: In focus. *Pancreatology*. 2017 May 27. pii: S1424-3903(17)30485-4. doi: 10.1016/j.pan.2017.05.390. [Epub ahead of print] Review.