

- Curriculum Vitae -

Dennis Plenker, PhD

plenker@cshl.edu

PROFESSIONAL EXPERIENCE

Since 10/2017

Cold Spring Harbor Laboratory

Post-Doc (Professor David Tuveson, Cancer Center)

- Further development of human organoid platform
Organoid model generation from pancreatic cancer and different other cancers. (e.g. CRC, lung cancer, small-intestine and metastases)
- Molecular analysis of human PDAC organoid and patient data
- Identification of resistance- and sensitivity-causing genes in PDAC

1/2015 – 10/2017

University of Cologne

Post-Doc (Professor Martin Sos, Department of Molecular Pathology and Translational Genomics)

Biochemical characterization of AD80 to optimize therapy of *RET*-rearranged tumors

- Generation of cellular models
- Characterization of the new lead structure *in vitro* and *in vivo*
- Identification of possible resistance mechanisms and gatekeeper position
- Published in *Science Translational Medicine*

Establishment and development of technologies to analyze single cell clones of genome engineered resistant cell lines

- Sample management of tissue from various clinical centers
- Generation of patient-derived cell lines
- Histological comparison of cell line with primary tissue
- Analysis of sequencing data according to mutations and oncogenic potential
- Identification and *in-vitro* validation of druggability and identification of mechanisms of resistance and therapeutic treatment strategies

Genome engineering via CRISPR/Cas9-technology to model resistance in cellular model systems

Independent establishment and expanding of CRISPR/Cas9 within the department

- Use of different CRISPR/Cas9 applications to generate new cellular models to investigate resistance
- Independent development of Cas9 protein production and purification from bacterial cells

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7/2011 – 1/2015

**Ph.D. thesis (Professor Dr. Roman Thomas,
Department of Translational Genomics)**

Functional characterization of CD74-NRG1 gene fusion in lung adenocarcinoma

- Generation of cellular models
- Analysis of basic biochemical properties of CD74-NRG1 gene fusion
- Characterization of oncogenic potential in cellular models
- Development of treatment options
- Published in *Cancer Discovery*

EDUCATION

10/2005 – 5/2011

Molecular Biomedicine

Diploma (Professor Dr. Björn Scheffler & Professor Dr. Oliver Brüstle, University of Bonn)

„Compound screening for the identification of residual tumor cells as unique cellular targets in GBM treatment“

- Analysis of therapeutic response of patient-derived cell lines from different tumor regions within the same patient

2/2009 – 4/2010

scientific internships amongst others at Harvard Medical School and different labs at the University of Bonn

AWARDS & ADDITIONAL QUALIFICATIONS

12/2015

Cancer Research UK travel grant (CRUK Lung Cancer Centre of Excellence Conference 2015, Manchester)

4/2014

DAAD travel grant (AACR 2014, San Diego)

2/2012

FELASA B (lab animal training)

7/2011 – 3/2012

doctoral scholarship of Max-Planck-Society

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PUBLICATIONS (<https://www.ncbi.nlm.nih.gov/pubmed/?term=Plenker+D%5BAuthor%5D>)

1. J. Fassunke*, F. Müller*, M. Keul*, S. Michels*, M. Dammert*, A. Schmitt*, **D. Plenker**, J. Lategahn, C. Heydt, J. Brägelmann, H. Tumbrink, Y. Alber, S. Klein, I. Dahmen, R. Fischer, M. Scheffler, M. Ihle, V. Priesner, A. Scheel, S. Wagener, A. Kron, K. Frank, K. Garbert, T. Persigehl, M. Püsken, S. Haneder, B. Schaaf, E. Rodermann, W. Engel-Riedel, E. Felip, E. Smit, S. Merkelbach-Bruse, HC. Reinhardt, S. Kast, J. Wolf, D. Rauh, R. Büttner, M. L. Sos, Overcoming EGFR^{G724S}-mediated osimertinib resistance through unique binding characteristics of second-generation EGFR inhibitors. *Nat. Comms*, (2018)
2. S. Michels*, M. Scheffler*, S. Wagener*, **D. Plenker***, A. Scheel, L. Nogova, A. Schultheis, R. N. Fischer, D. S. Y. Abdulla, R. Riedel, A. Bunck, C. Kobe, W. Baus, S. Merkelbach-Bruse, M. L. Sos, R. Büttner, J. Wolf, Loss of G2032R Resistance Mutation Upon Chemotherapy Treatment Enables Successful Crizotinib Rechallenge in a Patient With ROS1-Rearranged NSCLC, *JCO Precision Oncology*, 1–6 (2018).
3. H. Tiriác, P. Belleau, D. D. Engle, **D. Plenker**, A. Deschênes, T. Somerville, F. E. M. Froeling, R. A. Burkhardt, R. E. Denroche, G. H. Jang, K. Miyabayashi, C. M. Young, H. Patel, M. Ma, J. F. LaComb, R. L. D. Palmaira, A. A. Javed, J. A. Huynh, M. Johnson, K. Arora, N. Robine, M. Shah, R. Sanghvi, A. B. Goetz, C. Y. Lowder, L. Martello, E. Driehuis, N. Lecomte, G. Askan, C. A. Iacobuzio-Donahue, H. Clevers, L. D. Wood, R. H. Hruban, E. D. Thompson, A. J. Aguirre, B. M. Wolpin, A. Sasson, J. Kim, M. Wu, J. C. Bucobo, P. J. Allen, D. V. Sejjal, W. Nealon, J. D. Sullivan, J. M. Winter, P. A. Gimotty, J. L. Grem, D. J. DiMaio, J. M. Buscaglia, P. M. Grandgenett, J. R. Brody, M. A. Hollingsworth, G. M. O'Kane, F. Notta, E. J. Kim, J. M. Crawford, C. E. Devoe, A. Ocean, C. L. Wolfgang, K. H. Yu, E. Li, C. R. Vakoc, B. Hubert, S. E. Fischer, J. M. Wilson, R. A. Moffitt, J. J. Knox, A. Krasnitz, S. Gallinger, D. A. Tuveson, Organoid profiling identifies common responders to chemotherapy in pancreatic cancer, *Cancer Discovery*, CD–18–0349 (2018).
4. **D. Plenker***, M. Bertrand*, A. J. de Langen*, R. Riedel*, C. Lorenz*, A. H. Scheel, J. N. Müller, J. Brägelmann, J. Daßler-Plenker, C. Kobe, T. Persigehl, A. Kluge, T. Wurdinger, P. Schellen, G. Hartmann, T. Zacherle, R. Menon, E. Thunnissen, R. Büttner, F. Griesinger, J. Wolf, L. Heukamp, J. M. Heuckmann, M. L. Sos, Structural alterations of MET trigger response to MET kinase inhibition in lung adenocarcinoma patients, *Clin. Cancer Res.*, clincanres.3001.2017 (2018).
5. **D. Plenker***, M. Riedel*, J. Brägelmann, M. A. Dammert, R. Chauhan, P. P. Knowles, C. Lorenz, M. Keul, M. Bührmann, O. Pagel, V. Tischler, A. H. Scheel, D. Schütte, Y. Song, J. Stark, F. Mrugalla, Y. Alber, A. Richters, J. Engel, F. Leenders, J. M. Heuckmann, J. Wolf, J. Diebold, G. Pall, M. Peifer, M. Aerts, K. Gevaert, R. P. Zahedi, R. Buettner, K. M. Shokat, N. Q. McDonald, S. M. Kast, O. Gautschi, R. K. Thomas, M. L. Sos, Drugging the catalytically inactive state of RET kinase in RET-rearranged tumors, *Science Translational Medicine* **9**, eaah6144 (2017).
6. S. Ortiz-Cuaran, M. Scheffler, **D. Plenker**, L. Dahmen, A. H. Scheel, L. Fernandez-Cuesta, L. Meder, C. M. Lovly, T. Persigehl, S. Merkelbach-Bruse, M. Bos, S. Michels, R. Fischer, K. Albus, K. König, H.-U. Schildhaus, J. Fassunke, M. A. Ihle, H. Pasternack, C. Heydt, C. Becker, J. Altmüller, H. Ji, C. Müller, A. Florin, J. M. Heuckmann, P. Nuernberg, S. Ansén, L. C. Heukamp, J. Berg, W. Pao, M. Peifer, R. Buettner, J. Wolf, R. K. Thomas, M. L. Sos, Heterogeneous Mechanisms of Primary and Acquired Resistance to Third-Generation EGFR Inhibitors, *Clin. Cancer Res.* **22**, 4837–4847 (2016).
7. J. Schöttle, S. Chatterjee, C. Volz, M. Siobal, A. Florin, D. Rokitta, Y. Hinze, F. Dietlein, **D. Plenker**, K. König, K. Albus, J. M. Heuckmann, D. Rauh, T. Franz, B. Neumaier, U. Fuhr, L. C. Heukamp, R. T. Ullrich, Intermittent high-dose treatment with erlotinib enhances therapeutic efficacy in EGFR-mutant lung cancer, *Oncotarget* **6**, 38458–38468 (2015).

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8. L. Fernandez-Cuesta, R. Sun, R. Menon, J. George, S. Lorenz, L. A. Meza-Zepeda, M. Peifer, **D. Plenker**, J. M. Heuckmann, F. Leenders, T. Zander, I. Dahmen, M. Koker, J. Schottle, R. T. Ullrich, J. Altmuller, C. Becker, P. Nurnberg, H. Seidel, D. Böhm, F. Göke, S. Ansén, P. A. Russell, G. M. Wright, Z. Wainer, B. Solomon, I. Petersen, J. H. Clement, J. Sanger, O. T. Brustugun, Å. Helland, S. Solberg, M. Lund-Iversen, R. Buettner, J. Wolf, E. Brambilla, M. Vingron, S. Perner, S. A. Haas, R. K. Thomas, Identification of novel fusion genes in lung cancer using breakpoint assembly of transcriptome sequencing data, *Genome Biol* **16**, 7 (2015).
 9. Z. Fang, J. R. Simard, **D. Plenker**, H. D. Nguyen, T. Phan, P. Wolle, S. Baumeister, D. Rauh, Discovery of Inter-Domain Stabilizers - A Novel Assay System for Allosteric Akt Inhibitors, *ACS Chem. Biol.*, 140624123232001 (2014).
 10. L. Fernandez-Cuesta*, **D. Plenker***, H. Osada, R. Sun, R. Menon, F. Leenders, S. Ortiz-Cuaran, M. Peifer, M. Bos, J. Daßler, F. Malchers, J. Schottle, W. Vogel, I. Dahmen, M. Koker, R. T. Ullrich, G. M. Wright, P. A. Russell, Z. Wainer, B. Solomon, E. Brambilla, H. Nagy-Mignotte, D. Moro-Sibilot, C. G. Brambilla, S. Lantuejoul, J. Altmuller, C. Becker, P. Nurnberg, J. M. Heuckmann, E. Stoelben, I. Petersen, J. H. Clement, J. Sanger, L. A. Muscarella, A. la Torre, V. M. Fazio, I. Lahortiga, T. Perera, S. Ogata, M. Parade, D. Brehmer, M. Vingron, L. C. Heukamp, R. Buettner, T. Zander, J. Wolf, S. Perner, S. Ansén, S. A. Haas, Y. Yatabe, R. K. Thomas, CD74-NRG1 fusions in lung adenocarcinoma, *Cancer Discovery* **4**, 415–422 (2014).
 11. F. Malchers, F. Dietlein, J. Schottle, X. Lu, L. Nogova, K. Albus, L. Fernandez-Cuesta, J. M. Heuckmann, O. Gautschi, J. Diebold, **D. Plenker**, M. Gardizi, M. Scheffler, M. Bos, D. Seidel, F. Leenders, A. Richters, M. Peifer, A. Florin, P. S. Mainkar, N. Karre, S. Chandrasekhar, J. George, S. Silling, D. Rauh, T. Zander, R. T. Ullrich, H. C. Reinhardt, F. Ringeisen, R. Büttner, L. C. Heukamp, J. Wolf, R. K. Thomas, Cell-autonomous and non-cell-autonomous mechanisms of transformation by amplified FGFR1 in lung cancer, *Cancer Discovery* **4**, 246–257 (2014).
 12. M. Peifer, L. Fernandez-Cuesta, M. L. Sos, J. George, D. Seidel, L. H. Kasper, **D. Plenker**, F. Leenders, R. Sun, T. Zander, R. Menon, M. Koker, I. Dahmen, C. M. Uller, V. Di Cerbo, H.-U. Schildhaus, J. A. U. Iler, I. Baessmann, C. Becker, B. de Wilde, J. Vandesompele, D. B. O. hm, S. A. E. n, F. Gabler, I. Wilkening, S. Heynck, J. M. Heuckmann, X. Lu, S. L. Carter, K. Cibulskis, S. Banerji, G. Getz, K.-S. Park, D. Rauh, C. G. U. tter, M. Fischer, L. Pasqualucci, G. Wright, Z. Wainer, P. Russell, I. Petersen, Y. Chen, E. Stoelben, C. Ludwig, P. Schnabel, H. Hoffmann, T. Muley, M. Brockmann, W. Engel-Riedel, L. A. Muscarella, V. M. Fazio, H. Groen, W. Timens, H. Sietsma, E. Thunnissen, E. Smit, D. E. L. A. M. Heideman, P. J. F. Snijders, F. Cappuzzo, C. Ligorio, S. Damiani, J. Field, S. Solberg, O. T. Brustugun, M. Lund-Iversen, J. O. R. S. A. nger, J. H. Clement, A. Soltermann, H. Moch, W. Weder, B. Solomon, J.-C. Soria, P. Validire, B. Besse, E. Brambilla, C. Brambilla, S. Lantuejoul, P. Lorimier, P. M. Schneider, M. Hallek, W. Pao, M. Meyerson, J. Sage, J. Shendure, R. Schneider, R. Büttner, J. U. R. Wolf, P. Nürnberg, S. Perner, L. C. Heukamp, P. K. Brindle, S. Haas, R. K. Thomas, Integrative genome analyses identify key somatic driver mutations of small-cell lung cancer, *Nat Genet*, 1–9 (2012).

* co-first authorships