Curriculum Vitae

Olmer Ruth PD, Dr. rer nat.
d.o.b. December 07th, 1979, in Salzkotten, Germany

University Education

2023	Habilitation Regenerative Bioscience, MHH
2010	Doctorate, MHH
1999–2005	Studies "Molecular Biotechnology University Bielefeld, Germany

Scientific Career

2023	Venia Legendi: Regenerative Biosciences, Hannover Medical School (MHH)
2014	Head of Research Group „Stem Cell based therapies for lung diseases", Biomedical Research in Endstage and Obstructive Lung Disease (BREATH), German Centre for Lung Research (DZL)
Since 11/2012	Principle Investigator in Biomedical Research in Endstage and Obstructive Lung Disease (BREATH), German Centre for Lung Research (DZL)
2010 – 2014	Postdoctoral position, LEBAO, MHH
2005 – 2010	Doctoral Thesis, Leibniz Research Laboratories for Biotechnology and Artificial Organs (LEBAO), MHH "Characterization of human pluripotent stem cells from cord blood and expansion in scalable suspension culture" Dr. rer. nat.

Reviewer for Scientific Journals:	Stem Cells and Development, Cell Reports, Stem Cell Research & Therapy, European Respiratory Journal, Journal of Cystic Fibrosis
Memberships of scientific Societies:	since 2017 Member of German Society for Stem Cell Research (GSCN)

Citation Record
Total citations: 3445; h-index: 25

Top-10 selected Publications

1. van der Does, A. M., L, V. Schledorn, and **Olmer, R**. 2025. Cell-based treatments of lung diseases: overview and outlook. *Adv Drug Deliv Rev* 227:115712. DOI: 10.1016/j.addr.2025.115712.
2. Roth, D., Şahin, A. T., Ling, F., Tepho, N., Senger, C. N., Quiroz, E. J., Calvert, B. A., van der Does, A. M., Güney, T. G., Glasl, S., van Schadewijk, A., von Schledorn, L., **Olmer, R**., Kanso, E., Nawroth, J. C., and Ryan, A. L. 2025. Structure and function relationships of mucociliary clearance in human and rat airways. *Nat Commun* 16, no. 1:2446. DOI: 10.1038/s41467-025-57667-z.
3. Klassen, M. C., Balázs, A., Zöllner, J., Cleve, N., Czichon, L., von Schledorn, L., Hegermann, J., Nawroth, J. C., Roth, D., Mielenz, M., Hedtfeld, S., Stanke, F., Rubil, T., Ius, F., Jonigk, D.,

Hanrahan, J. W., Ruhparwar, A., **Olmer, R**., Mall, M. A., Merkert, S., and Martin, U. 2025. Human induced pluripotent stem cells for in vitro modeling of impaired mucociliary clearance in cystic fibrosis lung disease. *Stem Cell Res Ther* 16, no. 1:573. DOI: 10.1186/s13287-025-04737-0.

4. von Schledorn, L., Puertollano Martin, D., Cleve, N., Zollner, J., Roth, D., Staar, B. O., Hegermann, J., Ringshausen, F. C., Nawroth, J., Martin, U., and **Olmer, R**. 2023. Primary Ciliary Dyskinesia Patient-Specific hiPSC-Derived Airway Epithelium in Air-Liquid Interface Culture Recapitulates Disease Specific Phenotypes In Vitro. *Cells* 12, no. 11. DOI: 10.3390/cells12111467.

5. Niemeyer, D., Stenzel, S., Veith, T., Schroeder, S., Friedmann, K., Weege, F., Trimpert, J., Heinze, J., Richter, A., Jansen, J., Emanuel, J., Kazmierski, J., Pott, F., Jeworowski, L. M., **Olmer, R.**, Jaboreck, M. C., Tenner, B., Papies, J., Walper, F., Schmidt, M. L., Heinemann, N., Moncke-Buchner, E., Baumgardt, M., Hoffmann, K., Widera, M., Thao, T. T. N., Balazs, A., Schulze, J., Mache, C., Jones, T. C., Morkel, M., Ciesek, S., Hanitsch, L. G., Mall, M. A., Hocke, A. C., Thiel, V., Osterrieder, K., Wolff, T., Martin, U., Corman, V. M., Muller, M. A., Goffinet, C., and Drosten, C. 2022. SARS-CoV-2 variant Alpha has a spike-dependent replication advantage over the ancestral B.1 strain in human cells with low ACE2 expression. *PLoS Biol* 20, no. 11:e3001871. DOI: 10.1371/journal.pbio.3001871.

6. Lindner, M., Laporte, A., Elomaa, L., Lee-Thedieck, C., **Olmer, R**., and Weinhart, M. 2022. Flow-induced glycocalyx formation and cell alignment of HUVECs compared to iPSC-derived ECs for tissue engineering applications. *Front Cell Dev Biol* 10:953062. DOI: 10.3389/fcell.2022.953062.

7. Sahabian, A., Dahlmann, J., Martin, U., and **Olmer, R**. 2021. Production and cryopreservation of definitive endoderm from human pluripotent stem cells under defined and scalable culture conditions. *Nat Protoc* 16, no. 3:1581. DOI: 10.1038/s41596-020-00470-5.

8. Manstein, F., Ullmann, K., Kropp, C., Halloin, C., Triebert, W., Franke, A., Farr, C. M., Sahabian, A., Haase, A., Breitkreuz, Y., Peitz, M., Brustle, O., Kalies, S., Martin, U., **Olmer, R**., and Zweigerdt, R. 2021. High density bioprocessing of human pluripotent stem cells by metabolic control and in silico modeling. *Stem Cells Transl Med* 10, no. 7:1063. DOI: 10.1002/sctm.20-0453.

9. Merkert, S.*, Schubert, M.*, **Olmer, R**.*, Engels, L., Radetzki, S., Veltman, M., Scholte, B. J., Zollner, J., Pedemonte, N., Galietta, L. J. V., von Kries, J. P., and Martin, U. 2019. High-Throughput Screening for Modulators of CFTR Activity Based on Genetically Engineered Cystic Fibrosis Disease-Specific iPSCs. *Stem Cell Reports* 12, no. 6:1389. DOI: 10.1016/j.stemcr.2019.04.014. *equal contribution

10. Kempf, H., **Olmer, R**., Haase, A., Franke, A., Bolesani, E., Schwanke, K., Robles-Diaz, D., Coffee, M., Gohring, G., Drager, G., Potz, O., Joos, T., Martinez-Hackert, E., Haverich, A., Buettner, F. F., Martin, U., and Zweigerdt, R. 2016. Bulk cell density and Wnt/TGFbeta signalling regulate mesendodermal patterning of human pluripotent stem cells. *Nat Commun* 7:13602. DOI: 10.1038/ncomms13602.