

Dr. Andreas Maurer

Personal Data

Status/Function: Research Group Leader Imaging Probe Development
Scientific focus: New PET radiotracers for tumor characterization
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Education and qualifications

2008 – 2014 **Full-time doctoral student**
Interfaculty Institute of Biochemistry, Eberhard Karls University, Tuebingen
2002 – 2008 **Full-time student (Dipl.-Biochem.)**
Eberhard Karls University, Tuebingen

Work Experience

2013 – present **Post-doctoral researcher**
WSIC
2010 – 2011 **Research assistant (development of P-Check assay)**
Panatecs GmbH, Tuebingen.

Teaching Experience

2013 – present Radiochemistry courses for Bachelor and Master students in Medical Technologies and Medical Physics Experts, Department of Preclinical Imaging and Radiopharmacy, Tübingen
2009 – present Organizer and tutor of MALDI mass spectrometry and proteomics courses for undergraduate biochemistry students, Interfaculty Institute of Biochemistry, Tübingen
2008 – 2009 Teaching assistant in immunology, practical courses for undergraduate biochemistry and biology students, Interfaculty Institute of Biochemistry, Tübingen
2006 – 2007 Teaching assistant in inorganic chemistry, seminars and practical courses for undergraduate biochemistry students, Interfaculty Institute of Biochemistry, Tübingen
2005 – 2009 Teaching assistant in biochemistry, seminars and practical courses for undergraduate biochemistry students, Interfaculty Institute of Biochemistry, Tübingen

Publications

- 1.) Maurer, A., Bowden, G., Cotton, J., Parl, C., Krueger, M.A., Pichler, B.J., 2018. Acetuino – A Handy Open-Source Radiochemistry Module for the Preparation of [1-11C]Acetate. *SLAS Technol.* doi:10.1177/2472630318812341
- 2.) Maier, F.C., Wild, A.M., Kirchen, N., Holm, F., Fuchs, K., Schwenck, J., Maurer, A., Wiehr, S., 2019. Comparative immuno-Cerenkov luminescence and ^{64}Cu -PET imaging enables detection of PSMA+ tumors in mice using ^{64}Cu -radiolabeled monoclonal antibodies. *Appl. Radiat. Isot.* 143, 149-155. doi:10.1016/j.apradiso.2018.09.006
- 3.) Morad, H.O.J., Wild, A.M., Wiehr, S., Davies, G., Maurer, A., Pichler, B.J., Thornton, C.R., 2018. Pre-clinical Imaging of Invasive Candidiasis Using ImmunoPET/MR. *Front. Microbiol.* doi:10.3389/fmicb.2018.01996
- 4.) Hage, C., Gremse, F., Griessinger, C.M., Maurer, A., Hoffmann, S.H.L., Osl, F., Pichler, B.J., Kiessling, F., Scheuer, W., Pöschinger, T., 2018. Comparison of the Accuracy of FMT/CT and PET/MRI for the Assessment of Antibody Biodistribution in Squamous Cell Carcinoma Xenografts. *J. Nucl. Med.* 59, 44-50. doi:10.2967/jnumed.117.197178
- 5.) von Ungern-Sternberg, S.N.I., Vogel, S., Walker-Allgaier, B., Geue, S., Maurer, A., Wild, A.M., Münzer, P., Chatterjee, M., Heinzmann, D., Kremmer, E., Borst, O., Loughran, P., Zerneck, A., Neal, M.D., Billiar, T.R., Gawaz, M., Seizer, P., 2017. Extracellular Cyclophilin A Augments Platelet-Dependent Thrombosis and Thromboinflammation. *Thromb. Haemost.* 117, 2063-2078. doi:10.1160/TH17-01-0067
- 6.) Davies, G., Rolle, A.M., Maurer, A., Spycher, P.R., Schillinger, C., Solouk-Saran, D., Hasenberg, M., Weski, J., Fonslet, J., Dubois, A., Boschetti, F., Denat, F., Gunzer, M., Eichner, M., Ryder, L.S., Jensen, M., Schibli, R., Pichler, B.J., Wiehr, S., Thornton, C.R., 2017. Towards Translational ImmunoPET/MR Imaging of Invasive Pulmonary Aspergillosis: The Humanised Monoclonal Antibody JF5 Detects Aspergillus Lung Infections In Vivo. *Theranostics* 7, 3398-3414. doi:10.7150/thno.20919
- 7.) Hoffmann, S.H.L., Maurer, A., Reck, D.I., Reischl, G., Pichler, B.J., Kneilling, M., Griessinger, C.M., 2017. Murine Lymphocyte Labeling by ^{64}Cu -Antibody Receptor Targeting for In Vivo Cell Trafficking by PET/CT. *J. Vis. Exp.* doi:10.3791/55270
- 8.) Haubner, R., Schmid, A.M., Maurer, A., Rangger, C., Roig, L.G., Pichler, B.J., Virgolini, I.J., 2017. [^{68}Ga]NOTA-Galactosyl Human Serum Albumin: a Tracer for Liver Function Imaging with Improved Stability. *Mol. Imaging Biol.* 19, 723-730. doi:10.1007/s11307-017-1046-1
- 9.) Maier, F.C., Schmitt, J., Maurer, A., Ehrlichmann, W., Reischl, G., Nikolaou, K., Handgretinger, R., Pichler, B.J., Thaiss, W.M., 2016. Correlation between positron emission tomography and Cerenkov luminescence imaging in vivo and ex vivo using ^{64}Cu -labeled antibodies in a neuroblastoma mouse model. *Oncotarget* 7, 67403-67411, doi:10.18632/oncotarget.11795
- 10.) Steimle, A., Gronbach, K., Beifuss, B., Schäfer, A., Harmening, R., Bender, A., Maerz, J.K., Lange, A., Michaelis, L., Maurer, A., Menz, S., McCoy, K., Autenrieth, I.B., Kalbacher, H., Frick, J.S., 2016. Symbiotic gut commensal bacteria act as host cathepsin S activity regulators. *J. Autoimmun.* 75, 82-95. doi:10.1016/j.jaut.2016.07.009
- 11.) Wiehr, S., Warnke, P., Rolle, A.-M., Schütz, M., Oberhettinger, P., Kohlhofer, U., Quintanilla-Martinez, L., Maurer, A., Thornton, C., Boschetti, F., Reischl, G., Autenrieth, I.B., Pichler, B.J., Autenrieth, S.E., 2016. New pathogen-specific immunoPET/MR tracer for molecular imaging of a systemic bacterial infection. *Oncotarget* 7, 10990–11001. doi:10.18632/oncotarget.7770
- 12.) Steimle, A., Kalbacher, H., Maurer, A., Beifuss, B., Bender, A., Schäfer, A., Müller, R., Autenrieth, I.B., Frick, J.-S., 2016. A novel approach for reliable detection of cathepsin S activities in mouse antigen presenting cells. *J. Immunol. Methods* 432, 87–94. doi:10.1016/j.jim.2016.02.015
- 13.) Rolle, A.-M., Hasenberg, M., Thornton, C.R., Solouk-Saran, D., Männ, L., Weski, J., Maurer, A., Fischer, E., Spycher, P.R., Schibli, R., Boschetti, F., Stegemann-Koniszewski, S., Bruder, D., Severin, G.W., Autenrieth, S.E., Krappmann, S., Davies, G., Pichler, B.J., Gunzer, M., Wiehr, S., 2016. ImmunoPET/MR imaging allows specific detection of *Aspergillus fumigatus* lung infection in vivo. *Proc. Natl. Acad. Sci. U.S.A.* 113, E1026-1033. doi:10.1073/pnas.1518836113
- 14.) Honndorf, V.S., Wiehr, S., Rolle, A.-M., Schmitt, J., Kreft, L., Quintanilla-Martinez, L., Kohlhofer, U., Reischl, G., Maurer, A., Boldt, K., Schwarz, M., Schmidt, H., Pichler, B.J., 2016. Preclinical evaluation of the anti-tumor effects of the natural isoflavone genistein in two xenograft mouse models monitored by [^{18}F]FDG, [^{18}F]FLT, and [^{64}Cu]NODAGA-cetuximab small animal PET. *Oncotarget.* doi:10.18632/oncotarget.8625

- 15.) Wild, J., Schmiedel, B.J., Maurer, A., Raab, S., Prokop, L., Stevanović, S., Dörfel, D., Schneider, P., Salih, H.R., 2015. Neutralization of (NK-cell-derived) B-cell activating factor by Belimumab restores sensitivity of chronic lymphoid leukemia cells to direct and Rituximab-induced NK lysis. *Leukemia* 29, 1676–1683. doi:10.1038/leu.2015.50
- 16.) Severin, G.W., Jørgensen, J.T., Wiehr, S., Rolle, A.-M., Hansen, A.E., Maurer, A., Hasenberg, M., Pichler, B., Kjær, A., Jensen, A.I., 2015. The impact of weakly bound ⁸⁹Zr on preclinical studies: non-specific accumulation in solid tumors and aspergillus infection. *Nucl. Med. Biol.* 42, 360–368. doi:10.1016/j.nucmedbio.2014.11.005
- 17.) Griessinger, C.M., Maurer, A., Kesenheimer, C., Kehlbach, R., Reischl, G., Ehrlichmann, W., Bukala, D., Harant, M., Cay, F., Brück, J., Nordin, R., Kohlhofer, U., Rammensee, H.-G., Quintanilla-Martinez, L., Schaller, M., Röcken, M., Pichler, B.J., Kneilling, M., 2015. ⁶⁴Cu antibody-targeting of the T-cell receptor and subsequent internalization enables in vivo tracking of lymphocytes by PET. *Proc. Natl. Acad. Sci. U.S.A.* 112, 1161–1166. doi:10.1073/pnas.1418391112
- 18.) Senyürek, I., Kempf, W.E., Klein, G., Maurer, A., Kalbacher, H., Schäfer, L., Wanke, I., Christ, C., Stevanovic, S., Schaller, M., Rousselle, P., Garbe, C., Biedermann, T., Schitteck, B., 2014. Processing of laminin α chains generates peptides involved in wound healing and host defense. *J Innate Immun* 6, 467–484. doi:10.1159/000357032
- 19.) Amin, B., Maurer, A., Voelter, W., Melms, A., Kalbacher, H., 2014. New potential serum biomarkers in multiple sclerosis identified by proteomic strategies. *Curr. Med. Chem.* 21, 1544–1556.
- 20.) Sivasubramanian, K., Harichandan, A., Schumann, S., Sobiesiak, M., Lengerke, C., Maurer, A., Kalbacher, H., Bühring, H.-J., 2013. Prospective isolation of mesenchymal stem cells from human bone marrow using novel antibodies directed against Sushi domain containing 2. *Stem Cells Dev.* 22, 1944–1954. doi:10.1089/scd.2012.0584
- 21.) Maurer, A., Zeyher, C., Amin, B., Kalbacher, H., 2013. A periodate-cleavable linker for functional proteomics under slightly acidic conditions: application for the analysis of intracellular aspartic proteases. *J. Proteome Res.* 12, 199–207. doi:10.1021/pr300758c
- 22.) Staudt, N.D., Maurer, A., Spring, B., Kalbacher, H., Aicher, W.K., Klein, G., 2012. Processing of CXCL12 by different osteoblast-secreted cathepsins. *Stem Cells Dev.* 21, 1924–1935. doi:10.1089/scd.2011.0307
- 23.) Ardjomandi, N., Klein, C., Kohler, K., Maurer, A., Kalbacher, H., Niederländer, J., Reinert, S., Alexander, D., 2012. Indirect coating of RGD peptides using a poly-L-lysine spacer enhances jaw periosteal cell adhesion, proliferation, and differentiation into osteogenic tissue. *J Biomed Mater Res A* 100, 2034–2044. doi:10.1002/jbm.a.34062
- 24.) Kapprell, H.-P., Maurer, A., Kramer, F., Heinrich, B., Buenning, C., Narvaez, A., Kalbacher, H., Flad, T., 2011. Development of a fluorescence resonance energy transfer peptide library technology for detection of protease contaminants in protein-based raw materials used in diagnostic assays. *Assay Drug Dev Technol* 9, 549–553. doi:10.1089/adt.2010.0360
- 25.) Zaidi, N., Maurer, A., Nieke, S., Kalbacher, H., 2008. Cathepsin D: a cellular roadmap. *Biochem. Biophys. Res. Commun.* 376, 5–9. doi:10.1016/j.bbrc.2008.08.099

Conferences and Courses attended

- Molecular Imaging of Neurodegeneration Cologne Symposium, October 2018, Cologne, Germany (Invited Talk)
- European Molecular Imaging Meeting, March 2018, San Sebastian, Spain (Poster)
- 22nd International Symposium on Radiopharmaceutical Sciences, May 2017, Dresden, Germany (Talk)
- European Molecular Imaging Meeting, March 2017, Cologne, Germany (Talk)
- World Molecular Imaging Conference, September 2016, New York City (NY), USA (Poster)
- 21st International Symposium on Radiopharmaceutical Sciences, May 2015, Columbia (MO), USA (Poster)
- European Molecular Imaging Meeting, March 2015, Tübingen, Germany (Poster and Organization)
- Autoradiography Meeting Spring 2015, Bayer HealthCare, Wuppertal, Germany (Invited Talk)
- Imaging in 2020, September 2014, Jackson Hole (WY), USA (Poster)
- General Meeting of the International Proteolysis Society, October 2013, Cape Town, South Africa (Poster)
- German Peptide Symposium, March 2013, Munich, Germany (Short Talk and Poster)

- Annual Meeting of the Research Training Groups Würzburg, Erlangen and Tübingen, July 2012, Schöntal, Germany (Chair, Poster)
- Gordon Research Conference on Proteolytic Enzymes & Their Inhibitors, June 2012, Barga, Italy (Poster)
- Gordon Research Seminar on Proteolytic Enzymes & Their Inhibitors, June 2012, Barga, Italy (Poster)
- General Meeting of the International Proteolysis Society, October 2011, San Diego (CA), USA (Poster)
- Annual Meeting of the Research Training Groups Würzburg, Erlangen and Tübingen, June 2011, Neresheim, Germany (Talk)
- Young Scientist Symposium of the Interfaculty Institute for Biochemistry, University of Tübingen, June 2010, Blaubeuren, Germany (Talk)
- General Meeting of the International Proteolysis Society, October 2009, Surfers Paradise, Australia (Poster)

Professional Memberships

ESMI

Research Grants and Fellowships

- 1.) German National Excellence Strategy, Cluster of Excellence "iFIT" (Associate Investigator)
- 2.) European Research Council, Horizon 2020, Marie Skłodowska Curie Action, Innovative Training Network "PET-AlphaSy" (2018), 2 ESRs
- 3.) Project funding by the Wilhelm Schuler foundation for the development of trifunctional chelator molecules (2014)
- 4.) Associated member of the Research Training Group 794 and the Integrated Research Training Group of the CRC 685 (DFG, 2009-2014)

Awards and Honours

Travel Award, General Meeting of the International Proteolysis Society, October 2013, Cape Town, South Africa

Undergraduate support, Verband der Chemischen Industrie „Jubiläumsstipendium“ 2002-2004

Kofrànyi Award for the best University Entrance Qualification (on High Schools for Nutritional Science in Baden-Württemberg), AOK Baden-Württemberg, 2001