

## *Curriculum vitae*

Univ.-Prof. Dr. Michael Bernhard Fischer

### Personal Data

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#### Date of birth

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### Current Positions, Employment, and Faculty Appointments

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**since 2016** **Coordinator and initiator of the PhD-Program 'Regenerative Medicine'**  
Danube University Krems, Krems, Austria

**since 2013** **Professor of 'Tissue and Organ Replacement'**, Center for Biomedical  
Technology, Danube University Krems (DUK)

**since 2013** **Founding Member and Scientific Board Member**, 'Platform for Advanced  
Cellular Therapy' (PACT)

**2013 - 2016** **Head of the Center for 'Biomedical Technology'**, Danube University Krems

**2011 - 2013** **Vice-Curriculum Director of the Dental University Vienna**

**2003 - 2013** **Group leader of Routine Laboratories and Clinical Studies** at the Clinic for  
Blood Group Serology and Transfusion Medicine

**1999 - 2013** **Professor for Blood Group Serology and Transfusion Medicine, Leader of  
the Research Laboratories**, Medical University of Vienna (MUW)

**1996 - 1997** **Converted position to Assistant Professor in Pathology** at HMS

**1996** **Appointed Faculty Member and 'Instructor' of Pathology** at the HMS

**1994 - 1996** **Post-Doctoral Scholarship-** Erwin Schrödinger as well as Max Cade at the  
Department of Pathology, Harvard Medical School (HMS), Boston MA

### Education

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**2011 - 2015** **MBA in Health Care Management**

- 2009 - 2011 Specialisation in Hospital Management**, Danube University Krems
- 2010 'Venia docendi' in Blood Group Serology and Transfusion Medicine**
- 1999 - 2013 Specialization in Blood Group Serology and Transfusion Medicine**,  
University of Vienna and MUW
- 2008 - 2009 Fellowship in Haematology and Haemostaseology**, Clinic for Internal  
Medicine I, MUW
- 2003 - 2004 Fellowship in Surgery**, Clinic for Orthopaedic Surgery, MUW
- 1997 - 1999 Internship and residency**, Vienna Hospital Unions
- 1997 'Venia docendi' in Immunology**
- 1994 - 1997 HMS, Department of Pathology**, Boston, MA  
Specialization in Experimental Pathology,
- 1988 - 1994 Post-Doctoral Fellow at the Institute of Immunology**,  
Specialization in Clinical Immunology, University of Vienna, Vienna, Austria
- 1986 - 1988 Austrian Army Service – HSNS – Sports Company**
- 1980 - 1986 University of Vienna, School of Medicine, Austria, MD in 1986**
- 1972 - 1980 Gymnasium Wien, BRG-17 (highschool)**

### **Academic and Professional Career**

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**since 1999 Research associate**

Danube University Krems, Krems, Austria

**1999-2003 6 weeks research stay**, Polish Academy of Sciences, Warsaw, Poland

**2000 - 2001 Project leader "Tecnet AREA Biotechnologie"** on behalf of the  
government of lower Austria

**Since 2001 Head of Medical Process Engineering**, Center for Biomedical Technology,  
Danube University Krems, Krems, Austria

**Since 2018 Assistant Professorship for Apheresis and Extracorporeal Therapies**,  
Danube University Krems, Krems, Austria

### **Research (main areas)**

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**Tissue and Organ Replacement**

**Cellular Therapy**

**Blood Group Serology and Transfusion Medicine**

Clinical Immunology and Transplant Immunology

Experimental Pathology

### Honors and Awards

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2005 Best Dissertation MUW (Student's award)

2006 Best Dissertation in Medicine of all Austrian Universities ('Auerswald Preis', student's award)

1996 Appointed Faculty Member of the HMS

1996 Max Cade Scholarship

1994 Erwin Schrödinger Scholarship by the FWF

### Projects

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Lead Partner: INTERREG ATCZ133: Kompetenzzentrum MechanoBiologie in der Regenerativen Medizin

Lead Partner: Life-Science NFB: LS15-004 – Immunregulatorische Fähigkeiten von Mesenchymalen Stammzellen (MSCs).

Partner: OVCAD LSHC-CT-205-018698, EU Commission, Coordinator: Prof. Dr. Robert Zeillinger, MUW.

Partner: Christian Doppler Laboratory for 'Innovative Therapy Approaches in Sepsis', Coordinator: Prof. Dr. DI Viktoria Weber, DUK.

Principal Investigator: Blood Group specific Antibodies in ABO-incompatible Stem Cell Transplantation: ÖNB-Jubiläumsfonds: Projekt Nummer: 14 254.

Principal Investigator: Natural IgM Antibodies in Sepsis: ÖNB-Jubiläumsfonds: Projekt Nummer: 8790.

Principal Investigator: Local Complement C3 Synthesis: ÖNB-Jubiläumsfonds: Projekt Nummer: 6887.

Principal Investigator: Complement in RA: FWF-Project Number: P13 481.

Strategic Partner of ACMIT a Komet-Center of the FFG

### Publications (last five years)

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Baumann M, Gumpold C, Mueller-Felber W, Schoser B, Haberler C, Loescher WN, Rostásy K, **Fischer MB**, Wanschitz JV. Pattern of myogenesis and vascular repair in early and advanced lesions of juvenile dermatomyositis. Neuromuscul Disord. 2018 Sep 19. pii: S0960-8966(18)30273-6.

B Fendl, T Eichhorn, R Weiss, C Tripisciano, A Spittler, **MB Fischer**, V Weber. Differential interaction of platelet-derived extracellular vesicles with circulating immune cells: Roles of TAM receptors, CD11b,

and phosphatidylserine Front Immunol. 2018 in press

Bianchini R, Roth-Walter F, Ohradanova-Repic A, Flicker S, Hufnagl K, **Fischer MB**, Stockinger H, Jensen-Jarolim E. [IgG4 drives M2a macrophages to a regulatory M2b-like phenotype: potential implication in immune tolerance.](#) Allergy. 2018 Oct 18.

Buchroithner J, Erhart F, Pichler J, Widhalm G, Preusser M, Stockhammer G, Nowosielski M, Iglseder S, Freyschlag CF, Oberndorfer S, Bordihn K, von Campe G, Hoffermann M, Ruckser R, Rössler K, Spiegl-Kreinecker S, **Fischer MB**, Czech T, Visus C, Krumpl G, Felzmann T, Marosi C. [Audenel Immunotherapy Based on Dendritic Cells Has No Effect on Overall and Progression-Free Survival in Newly Diagnosed Glioblastoma: A Phase II Randomized Trial.](#) Cancers (Basel). 2018 Oct 5;10(10)

Hohensinner PJ, Baumgartner J, Ebenbauer B, Thaler B, **Fischer MB**, Huber K, Speidl WS, Wojta J. [Statin treatment reduces matrix degradation capacity of proinflammatory polarized macrophages.](#) Vascul Pharmacol. 2018 Nov;110:49-54.

Rüger BM, Buchacher T, Giurea A, Kubista B, **Fischer MB**, Breuss JM. Vascular Morphogenesis in the Context of Inflammation: Self-Organization in a Fibrin-Based 3D Culture System. Front. Physiology.05 June 2018.

Ohradanova-Repic A, Machacek C, Charvet C, Lager F, Le Roux D, Platzer R, Leksa V, Mitulovic G, Burkard TR, Zlabinger GJ, **Fischer MB**, Feuillet V, Renault G, Blüml S, Benko M, Suchanek M, Huppa JB, Matsuyama T, Cavaco-Paulo A, Bismuth G, Stockinger H. [Extracellular Purine Metabolism Is the Switchboard of Immunosuppressive Macrophages and a Novel Target to Treat Diseases With Macrophage Imbalances.](#) Front Immunol. 2018 Apr 27;9:852. doi: 10.3389/fimmu.2018.00852. eCollection 2018

Weiss R, Gröger M, Rauscher S, Fendl B, Eichhorn T, **Fischer MB**, Spittler A, Weber V. [Differential Interaction of Platelet-Derived Extracellular Vesicles with Leukocyte Subsets in Human Whole Blood.](#) Sci Rep. 2018 Apr 26;8(1):6598. doi: 10.1038/s41598-018-25047.

Herrmann I, Gotovina J, Fazekas-Singer J, **Fischer MB**, Hufnagl K, Bianchini R, Jensen-Jarolim E. [Canine macrophages can like human macrophages be in vitro activated toward the M2a subtype relevant in allergy.](#) Dev Comp Immunol. 2018 May;82:118-127

Cicha A, **Fischer MB**, Wesinger A, Haas S, Bauer WM, Wolf HM, Sauerwein KMT, Reininger B, Petzelbauer P, Pehamberger H, Handisurya A. [Effect of intravenous immunoglobulin administration on erythrocyte and leucocyte parameters.](#) J Eur Acad Dermatol Venereol. 2017 Nov 8.

Rothbauer M, Frauenlob M, Gutkas K, **Fischer MB**, Sinner EK, Küpcü S, Ertl P. [Development of a Multifunctional Nanobiointerface based on Self-assembled Fusion-protein rSbpA/ZZ for Blood Cell Enrichment and Phenotyping.](#) ACS Appl Mater Interfaces. 2017 Sep 18.

Hohensinner PJ, Baumgartner J, Kral-Pointner JB, Uhrin P, Ebenbauer B, Thaler B, Doberer K, Stojkovic S, Demyanets S, **Fischer MB**, Huber K, Schabbauer G, Speidl WS, Wojta J. [PAI-1 \(Plasminogen Activator Inhibitor-1\) Expression Renders Alternatively Activated Human Macrophages](#)

[Proteolytically Quiescent](#). Arterioscler Thromb Vasc Biol. 2017 Aug 17.

Tripisciano C, Weiss R, Eichhorn T, Spittler A, Heuser T, **Fischer MB**, Weber V. [Different Potential of Extracellular Vesicles to Support Thrombin Generation: Contributions of Phosphatidylserine, Tissue Factor, and Cellular Origin](#). Sci Rep. 2017 Jul 26;7(1):6522.

Black A, Orsó E, Kelsch R, Pereira M, Kamhieh-Milz J, Salama A, **Fischer MB**, Meyer E, Frey BM, Schmitz G. [Analysis of platelet-derived extracellular vesicles in plateletpheresis concentrates: a multicenter study](#). Transfusion. 2017 Apr 10. doi: 10.1111/trf.14109.

Mozgan EM, Edelmayer M, Janjić K, Pensch M, **Fischer MB**, Moritz A, Agis H. [Release kinetics and mitogenic capacity of collagen barrier membranes supplemented with secretome of activated platelets - the in vitro response of fibroblasts of the periodontal ligament and the gingiva](#). BMC Oral Health. 2017 Mar 21;17(1):66. doi: 10.1186/s12903-017-0357-6.

Knoop C, Edelmayer M, Janjić K, Pensch M, **Fischer MB**, Gruber R, Agis H. [Difference in release kinetics of unwashed and washed platelet-released supernatants from bone substitute materials: the impact of platelet preparation modalities](#). J Periodontal Res. 2017 Mar 6. doi: 10.1111/jre.12447.

Eichhorn T, **Fischer MB**, Weber V. [Mechanisms of endothelial activation in sepsis and cell culture models to study the heterogeneous host response](#). Int J Artif Organs. 2017 Mar 6;40(1):9-14. doi: 10.5301/ijao.5000560.

Semak V, **Fischer MB**, Weber V. [Biomimetic principles to develop blood compatible surfaces](#). Int J Artif Organs. 2017 Mar 6;40(1):22-30. doi: 10.5301/ijao.5000559. Epub 2017 Feb 13.

Wolfram W, Sauerwein KM, Binder CJ, Eibl-Musil N, Wolf HM, **Fischer MB**. [Pneumococcal Polysaccharide Vaccination Elicits IgG Anti-A/B Blood Group Antibodies in Healthy Individuals and Patients with Type I Diabetes Mellitus](#). Front Immunol. 2016 Nov 14;7:493

Weiss R, **Fischer MB**, Weber V. [The impact of citrate concentration on adhesion of platelets and leukocytes to adsorbents in whole blood lipoprotein apheresis](#). J Clin Apher. 2016 Nov 17. doi: 10.1002/jca.21519.

Arbesu I, Bucsaiova M, **Fischer MB**, Mannhalter C. [Platelet-borne complement proteins and their role in platelet-bacteria interactions](#). J Thromb Haemost. 2016 Nov;14(11):2241-2252. doi: 10.1111/jth.13495. Epub 2016 Nov 11.

Eichhorn T, Rauscher S, Hammer C, Gröger M, **Fischer MB**, Weber V. [Polystyrene-Divinylbenzene-Based Adsorbents Reduce Endothelial Activation and Monocyte Adhesion Under Septic Conditions in a Pore Size-Dependent Manner](#). Inflammation. 2016 Oct;39(5):1737-46. doi: 10.1007/s10753-016-0408-1.

Fendl B, Weiss R, **Fischer MB**, Spittler A, Weber V. [Characterization of extracellular vesicles in whole blood: Influence of pre-analytical parameters and visualization of vesicle-cell interactions using imaging flow cytometry](#). Biochem Biophys Res Commun. 2016 Sep 9;478(1):168-73. doi:

10.1016/j.bbrc.2016.07.073. Epub 2016 Jul 19.

Pohl V, Schuh C, **Fischer MB**, Haas R. [A New Method Using Autogenous Impacted Third Molars for Sinus Augmentation to Enhance Implant Treatment: Case Series with Preliminary Results of an Open, Prospective Longitudinal Study](#). *Int J Oral Maxillofac Implants*. 2016 May-Jun;31(3):622-30. doi: 10.11607/jomi.4172.

Ohradanovic-Repic A, Machacek C, **Fischer MB**, Stockinger H. Differentiation of human monocytes and derived subsets of macrophages and dendritic cells by the HLDA10 monoclonal antibody panel. *Clinical and translational Immunol*. 2016, 5,e55;doi10.1038cti.2015,39.

Weiss R, Eichhorn T, Spittler A, Mičušík M, **Fischer MB**, Weber V. Release and cellular origin of extracellular vesicles during circulation of whole blood over adsorbent polymers for lipid apheresis. *J Biomed Mater Res B Appl Biomater*. 2015 Dec 16. doi: 10.1002/jbm.b.33588

Watrowski R, Castillo-Tong DC, Schuster E, **Fischer MB**, Speiser P, Zeillinger R. Association of HER2 codon 655 polymorphism with ovarian cancer. *Tumour Biol*. 2015 Dec 14.

Watrowski R, Castillo-Tong DC, Wolf A, Schuster E, **Fischer MB**, Speiser P, Zeillinger R. HER2 Codon 655 (Ile/Val) Polymorphism and Breast Cancer in Austrian Women. *Anticancer Res*. 2015 Dec;35(12):6667-70.

Buchacher T, Ohradanova-Repic A, Stockinger H, **Fischer MB**, Weber V. M2 Polarization of Human Macrophages Favors Survival of the Intracellular Pathogen *Chlamydia pneumoniae*. *PLoS One*. 2015 Nov 25;10(11):e0143593. doi: 10.1371/journal.pone.0143593. eCollection 2015.

Watrowski R, Castillo-Tong DC, Wolf A, Schuster E, **Fischer MB**, Speiser P, Zeillinger R. HER2 Codon 655 (Ile/Val) Polymorphism and Breast Cancer in Austrian Women. *Anticancer Res*. 2015 Nov;35(11):5901-4

Seemann R, Svabik O, Orlik A, Figl M, **Fischer MB**, Schicho K, Wutzl A, Forster J, Jesch P, Perisanidis C, Undt G, Millesi W. The frequency of dental abscesses increases 2 in periods of low barometric pressure. *J Craniomaxillofac Surg*. 2015 Nov;43(9):1843-8. doi: 10.1016/j.jcms.2015.07.024. Epub 2015 Aug 12.

Haider T, Höftberger R, Rüger B, Mildner M, Blumer R, Mitterbauer A, Buchacher T, Sherif C, Altmann P, Redl H, Gabriel C, Gyöngyösi M, **Fischer MB**, Lubec G, Ankersmit HJ. The secretome of apoptotic human peripheral blood mononuclear cells attenuates secondary damage following spinal cord injury in rats. *Exp Neurol*. 2015 May;267:230-42. doi: 10.1016/j.expneurol.2015.03.013. Epub 2015 Mar 19.

**Fischer MB**, Wolfram W, Binder CJ, Böhmig GA, Wahrmann M, Eibl MM, Wolf HM. Surface plasmon resonance analysis shows an IgG-isotype-specific defect in ABO blood group antibody formation in patients with common variable immunodeficiency. *Frontiers in Immunology* 2015 May 6;6:211. doi: 10.3389/fimmu.2015.00211. eCollection 2015

Tsiantoulas D, Perkmann T, Afonyushkin T, Mangold A, Prohaska TA, Papac-Milicevic N, Millischer V, Bartel C, Hörkkö S, Boulanger CM, Tsimikas S, **Fischer MB**, Witztum JL, Lang IM, Binder CJ. [Circulating microparticles carry oxidation-specific epitopes and are recognized by natural IgM antibodies](#). *J Lipid Res*. 2015 Feb;56(2):440-8. doi: 10.1194/jlr.P054569. Epub 2014 Dec 18.

Buchacher T, Wiesinger-Mayr H, Vierlinger K, Ruger BM, Stanek G, **Fischer MB**, Weber V. [Human blood monocytes support persistence, but not replication of the intracellular pathogen C. pneumoniae.](#) BMC Immunol. 2014 Dec 9;15(1):60.

Koffel R, Meshcheryakova A, Warszawska J, Hennig A, Wagner K, Jorgl A, Gubi D, Moser D, Hladik A, Hoffmann U, **Fischer MB**, van den Berg W, Koenders M, Scheinecker C, Gesslbauer B, Knapp S, Strobl H. [Monocytic cell differentiation from band-stage neutrophils under inflammatory conditions via MKK6 activation.](#) Blood. 2014 Sep 11. 588178. [Epub ahead of print]

Walzer SM, Cetin E, Grubl-Barabas R, Sulzbacher I, Rueger B, Girsch W, Toegel S, Windhager R, **Fischer MB**. [Vascularization of primary and secondary ossification centres in the human growth plate.](#) BMC Dev Biol. 2014 Aug 28;14(1):36. [Epub ahead of print]

Weiss R, Spittler A, Schmitz G, **Fischer MB**, Weber V. [Thrombocyte adhesion and release of extracellular microvesicles correlate with surface morphology of adsorbent polymers for lipid apheresis.](#) Biomacromolecules. 2014 Jul 14;15(7):2648-55.

Czembirek C, Poeschl WP, Eder-Czembirek C, **Fischer MB**, Perisanidis C, Jesch P, Schicho K, Dong A, Seemann R [Causes and timing of delayed bleeding after oral surgery.](#) Clin Oral Investig. 2014 Jul;18(6):1655-61.

Agis H, Schrockmair S, Skorianz C, **Fischer MB**, Wazek G, Gruber R. Platelets increase while serum reduces the differentiation and activity of osteoclasts in vitro. J. Orthop. Res. 2013, 31:1561-69.  
Gruber R, Leimer M, Fischer MB, Agis H. [Beta2-adrenergic receptor agonists reduce proliferation but not protein synthesis of periodontal fibroblasts stimulated with platelet-derived growth factor-BB.](#) Arch Oral Biol. 2013 Dec;58(12):1812-7.

Wanschitz JV, Dubourg O, Lacene E, **Fischer MB**, Hoftberger R, Butka H, Romero NB, Eymard B, Herson S, Butler-Browne GS, Voit T, Benveniste O. Expression of myogenic regulatory factors and myo-endothelial remodeling in sporadic inclusion body myositis. J. Neuromuscular Disorders 2013, 23:75-83.

Hollemann D, Yanagida G, Ruger BM, Neuchrist C, **Fischer MB**. New vessel formation in peritumoral area of squamous cell carcinoma of the head and neck. Head Neck 2012, 34:813-20.  
Eifler R, Lind J, Falkenhagen D, Weber V, \*Fischer MB, \*Zeillinger R. Enrichment of circulating tumor cells from a large blood volume using leukapheresis and elutriation: Proof of concept. Clinical Cytometry 2011, 80:100-11.

Obermayr E, Sanchez-Cabo F, Tea MK, Singer CF, Krainer M, **Fischer MB**, Sehoul J, Reinhaller A, Horvat R, Heinze G, Tong D, Zeillinger R. Assessment of a six gene panel for the molecular detection of circulating tumor cells in the blood of female cancer patients. BMC Cancer 2010, 10:666-71.

Leitner GC, Dettke M, List J, Worel N, Weigl G, **Fischer MB**. Red blood units collected from bone marrow harvests after mononuclear cell selection qualify for autologous use. Vox. Sang 2010, 98:284-49.

Traxlmayr MW, Wesch D, Dohnal A, Funovics P, **Fischer MB**, Kabelitz D, Felzmann T. Immune suppression of gammadelta T-cells as a potential regulatory mechanism after cancer vaccination with IL-12 secreting dendritic cells. *J. Immunotherapy* 2010, 33:40-52.

Agis H, Kandler B, **Fischer MB**, Watzek G, Gruber R. Activated platelets increase fibrinolysis of mesenchymal progenitor cells. *J. Orthop. Res.* 2009, 27:40-52.

Gruber R, Kandler B, Agis H, **Fischer MB**, Watzek G, Gruber R. Bone cells responsiveness to growth and differentiation factors under hypoxia in vitro. *Int. J. Oral Maxillofac. Implants.* 2008, 23:417-427.

Hollemann D, Budka H, Löscher WN, Yanagida G, **Fischer MB**, Wanschitz JV. Endothelial and myogenic differentiation of hematopoietic progenitor cells in inflammatory myopathies. *J. Neuropathol. Experiment. Neurol.* 2008, 67: 711-9.

Schalich J, Vytvytska O, Zauner W, **Fischer MB**, Buschle M, Aichinger G, Klade CS. Analysis of human cytomegalovirus pp65-directed T cell response in healthy, HLA-A2 positive individuals. *Biol. Chem.* 2008, 389:551-9.

Rüger BM, Breuss J, Hollemann D, Yanagida G, **Fischer MB**, Mosberger I, Chott A, Lang I, Davis PF, Höcker P, Dettke M. Vascular morphogenesis by adult bone marrow progenitor cells in three-dimensional fibrin matrices. *Differentiation* 2008, 76: 772-83.

Vakulik C, Rüger BM, Yanagida G, Hollemann D, Soleiman A, Losert UM, Chen J, **Fischer MB**. Shift of C3 deposition from localization in the glomerulus into the tubulo-interstitial compartment in the absence of secreted IgM in immune complex glomerulonephritis. *Clin. Exp. Immunol.* 2008, 151:146-154.

Weicht B, Maitz P, Kandler B, **Fischer MB**, Watzek G, Gruber R. Activated platelets positively regulate RANKL-mediated osteoclast differentiation. *J. Cell Biochem.* 2007: 1300-13007

**Fischer MB**, Rüber B, Vaculik C, Becherer A, Wadsak W, Yanagida G, Losert UM, Chen J, Carroll MC, Eibl MM. The presence of MOMA-2+ macrophages in the outer B cell zone and protection of the splenic micro-architecture from LPS-induced destruction depend on secreted IgM. *Eur. J. Immunol.* 2007, 37:2825-33.

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