Doris Wilflingseder

Biographical sketch

I studied zoology at the Leopold-Franzens-University in Innsbruck, Austria. During my thesis at the Division of Physiology, Medical University Innsbruck, and my first postdoc years at the Division of Hygiene and Medical Microbiology, Medical University Innsbruck, I focused on cell biology and immunology and worked on signal mechanisms – i.e. MAPK signaling – in human primary cell models upon stimulation with fungal or viral pathogens. I continued these analyses using dendritic cells (DC) and differentially opsonized HIV-1 during my stay in collaboration with Paul Kellam at the Division of Infection and Immunity, University College London. My research group at the Division of Hygiene and Medical Microbiology of the Medical University Innsbruck is interested in modulation of DC and macrophage function by the opsonization pattern of pathogens, i.e. HIV-1, HIV-2 or *Aspergillus fumigatus* in relevant 3-dimensional cell culture microenvironments containing epithelial borders. To address these issues we use molecular biologic, imaging and immunologic approaches and primary cell models – where possible – or appropriate cell lines for e.g. gene editing approaches.

Curriculum vitae

Medizinische Universität Innsbruck
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ORCID: 0000-0002-5888-5118

Date of birth	12 January 1971
Place of birth	Innsbruck, Austria
Citizenship	Austrian

Education

1989	Matura, Bundesgymnasium Sillgasse, Innsbruck, Austria
1997	Master in Zoology, Leopold-Franzens-University of Innsbruck, Austria
2000	PhD in Zoology (Cell Biology, Immunobiology), Leopold-Franzens-University of Innsbruck, Austria

Career History

2001-2008	Research Assistant, Division of Hygiene and Medical Microbiology, Innsbruck Medical University
2008-2009	Visiting scientist at University College London, Division of Infection and Immunity, collaboration with Prof. Paul Kellam, London, UK
since 2009	Groupleader, Division of Hygiene and Medical Microbiology, Innsbruck Medical University and Habilitation in Immunology
since 2012	Associate Professor and Deputy Director, Division of Hygiene and Medical Microbiology, Innsbruck Medical University

Fellowships, Awards

Award at the European Contest for young scientists on protein purification, Paris, France (1999)
Hypo-Tirol-Bank Scientific Award (2005)
Austrian Microbiology Award (2008)
Award 'Preis der Landeshauptstadt Innsbruck' (2012)
Award 'Höchste Drittmitteleinwerbung einer wissenschaftlichen Mitarbeiterin der Medizinischen Universität Innsbruck' (2013)

Publications

Number of publications=47 (wilflingseder-d or wilfingseder-d), h-index=19,

cited>1000
average citation per item>20
Google Scholar link

Patents None

Other Functions Reviewer for MRC UK, ARS Journal, Journal of Immunology, ALTEX, Intervirology, board member of the Austrian Society of Allergology and Immunology (ÖGAI), deputy head of the Austrian Society for alternative Biomodels (RepRefRed Society), member of the habilitation committee (Medical University Innsbruck)

Research Interests Mechanisms that co-ordinate viral and fungal up-take and internalization in DCs; focus on the signaling pathways induced by the opsonization pattern of the pathogen.

Funds obtained (in €, 5 most important ones)

P 22165 FWF Stand alone	265.000	FWF	2010-2013
P 24598 FWF Stand alone	288.000	FWF	2012-2016 (Dec 31st)
Doktoratskolleg (W11), Molecular Cell Biology and Oncology 4rd funding period	205.000	FWF, Med. Uni. Innsbruck	2012-2018
HRSM project ´Austrian Biomimetic Center 3Rs (ABC3Rs)	272.000	Federal Ministry of Science, Research and Economy	2017-2021
ÖNB 17633	140.000	Austrian National Bank (ÖNB)	2018-2021

PhD students since 2013

PhD Student	PhD Thesis	Start	Defense	Paper
Marion Steger	A complementary view on DC/pathogen interactions	2013	2017	5
Ulla Knackmuss	Modulation of dendritic cell function by complement-opsonized HIV during bacterial co-infection	2014	2016	1
Marta Bermejo-Jambrina	Complement- and Fc-receptor signaling during HIV infection	2015	ongoing	1
Manuela Schönfeld	DC-oding the impact of opportunistic bacterial and fungal infections on antigen-presentation during HIV-1 infection	2016	ongoing	0
Wilfried Posch	Molecular and immunological characterization of DC function upon microbial stimuli	2011	2018	16

International collaborators

	Project	Joint public.	lab for stay abroad
Teunis Geijtenbeek (AML, Netherlands)	DC signaling, HIV-1	1	yes
Arnaud Moris (Institut Pasteur, France)	DCs, HIV-1, T cell clones	2	yes
Mike Malim (King´s College London)	DC restriction mechanisms	0	yes

Doris Wilflingseder; 10 most important scientific publications

1. Posch W, Steger M, Knackmuss U, Blatzer M, Baldauf HM, Doppler W, White TE, Hörtnagl P, Diaz-Griffero F, Lass-Flörl C, Hackl H, Moris A, Keppler OT, **Wilflingseder D*.** (2015). Complement-Opsonized HIV-1 Overcomes Restriction in Dendritic Cells. **PLoS Pathog**. 11(6):e1005005. doi: 10.1371/journal.ppat.1005005. eCollection 2015 Jun. PubMed PMID: 26121641; PubMed Central PMCID: PMC4485899. *corresponding author.

2. Blatzer M, Jukic E, Posch W, Schöpf B, Binder U, Steger M, Blum G, Hackl H, Gnaiger E, Lass-Flörl C, **Wilflingseder D***. (2015). Amphotericin B Resistance in Aspergillus terreus Is Overpowered by Coapplication of Pro-oxidants. **Antioxid Redox Signal**. 23(18):1424-38. doi: 10.1089/ars.2014.6220. Epub 2015 Oct 8. PubMed PMID: 26054424. *corresponding author.

3. Blatzer M, Blum G, Jukic E, Posch W, Gruber P, Nagl M, Binder U, Maurer E, Sarg B, Lindner H, Lass-Flörl C, **Wilflingseder D***. (2015). Blocking Hsp70 enhances the efficiency of amphotericin B treatment against resistant Aspergillus terreus strains. **Antimicrob Agents Chemother**. 59(7):3778-88. doi: 10.1128/AAC.05164-14. PMID: 25870060; *corresponding author.

4. **Wilflingseder D**, Schroll A, Hackl H, Gallasch R, Frampton D, Lass-Flörl C, Pancino G, Saez-Cirion A, Lambotte O, Weiss L, Kellam P, Trajanoski Z, Geijtenbeek T, Weiss G, Posch W. (2015). Immediate T-Helper 17 Polarization Upon Triggering CD11b/c on HIV-Exposed Dendritic Cells. **J Infect Dis**. 212(1):44-56. doi: 10.1093/infdis/jiv014. Epub 2015 Jan 12. PubMed PMID: 25583169.

5. Posch W, Cardinaud S, Hamimi C, Fletcher A, Mühlbacher A, Loacker K, Eichberger P, Dierich MP, Pancino G, Lass-Flörl C, Moris A, Saez-Cirion A, **Wilflingseder D***. (2012) Antibodies attenuate the capacity of dendritic cells to stimulate HIV-specific cytotoxic T lymphocytes. J **Allergy Clin Immunol**. 2012 Dec;130(6):1368-74.e2. doi: 10.1016/j.jaci.2012.08.025. Epub 2012 Oct 11. PubMed PMID: 23063584. *corresponding author.

6. Posch W, Piper S, Lindhorst T, Werner B, Fletcher A, Bock H, Lass-Flörl C, Stoiber H, **Wilflingseder D***. (2012). Inhibition of human immunodeficiency virus replication by cell membrane-crossing oligomers. **Mol Med**. 18:111-22. doi: 10.2119/molmed.2011.00128. PubMed PMID: 22105607; PubMed Central PMCID: PMC3276398. *corresponding author.

7. Bánki Z, Posch W, Ejaz A, Oberhauser V, Willey S, Gassner C, Stoiber H, Dittmer U, Dierich MP, Hasenkrug KJ, **Wilflingseder D***. (2010). Complement as an endogenous adjuvant for dendritic cell-mediated induction of retrovirus-specific CTLs. **PLoS Pathog**. 6(4):e1000891. doi: 10.1371/journal.ppat.1000891. PubMed PMID: 20442876; PubMed Central PMCID: PMC2861708. *corresponding author.

8. **Wilflingseder D**, Banki Z, Garcia E, Pruenster M, Pfister G, Muellauer B, Nikolic DS, Gassner C, Ammann CG, Dierich MP, Piguet V, Stoiber H. (2007). IgG opsonization of HIV impedes provirus formation in and infection of dendritic cells and subsequent long-term transfer to T cells. **J Immunol.** 178(12):7840-8. PubMed PMID: 17548622.

9. Pruenster M[#], **Wilflingseder D**[#], Bánki Z, Ammann CG, Muellauer B, Meyer M, Speth C, Dierich MP, Stoiber H. (2005) C-type lectin-independent interaction of complement opsonized HIV with monocyte-derived dendritic cells. **Eur J Immunol**. 35(9):2691-8. PubMed PMID: 16094691. [#]*equal contribution*.

10. **Wilflingseder D**, Müllauer B, Schramek H, Banki Z, Pruenster M, Dierich MP, Stoiber H. (2004). HIV-1-induced migration of monocyte-derived dendritic cells is associated with differential activation of MAPK pathways. **J Immunol**. 173(12):7497-505. PubMed PMID: 15585876.

Doris Wilflingseder; all publications since 2013

1. Posch W, Blatzer M, **Wilflingseder D**, Lass-Flörl C. (2018). Aspergillus terreus: Novel lessons learned on amphotericin B resistance. **Med Mycol**. 56(suppl_1):73-82. doi: 10.1093/mmy/myx119. PubMed PMID: 29538736.

2. Decristoforo P, Kaltseis J, Fritz A, Edlinger M, Posch W, **Wilflingseder D**, Lass-Flörl C, Orth-Höller D; Tyrolean Endoscope Hygiene Surveillance Study Group. (2018). High-quality endoscope reprocessing decreases endoscope contamination. **Clin Microbiol Infect**. pii: S1198-743X(18)30088-0. doi: 10.1016/j.cmi.2018.01.017. PubMed PMID: 29408276.

3. Posch W, Heimdörfer D, **Wilflingseder D**, Lass-Flörl C. (2017) Invasive candidiasis: future directions in non-culture based diagnosis. **Expert Rev Anti Infect Ther**. 2017 Sep;15(9):829-838. doi: 10.1080/14787210.2017.1370373. Epub 2017 Sep 7. PubMed PMID: 28829207.

4. Chandorkar P, Posch W, Blatzer M, Steger M, Ammann CG, Hermann M, Paul Hörtnagl, Lass-Flörl C, **Wilflingseder D***. (2017). Fungal conidia are efficiently sensed by DCs in a perfused respiratory model. **Sci Rep**. 2017 Sep 14;7(1):11644. doi: 10.1038/s41598-017-11271-4. PubMed PMID: 28912507; PubMed Central PMCID: PMC5599647. *corresponding author.

5. Wilmes A, Rauch C, Carta G, Kern G, Meier F, Posch W, **Wilflingseder D**, Armstrong L, Lako M, Beilmann M, Gstraunthaler G, Jennings P. (2017). Extracellular acidification results in growth arrest of induced pluripotent cells prior to nutrient exhaustion. **Toxicol In Vitro**. 45(Pt 3):445-454. doi: 10.1016/j.tiv.2017.07.023. Epub 2017 Aug 15.PubMed PMID: 28821352.

6. Jukic E, Blatzer M, Posch W, Steger M, Binder U, Lass-Flörl C, **Wilflingseder D***. (2017). Oxidative Stress Response Tips the Balance in Aspergillus terreus Amphotericin B Resistance. **Antimicrob Agents Chemother**. 2017 Sep 22;61(10). pii: e00670-17. doi: 10.1128/AAC.00670-17. Print 2017 Oct. PubMed PMID: 28739793; PubMed Central PMCID: PMC5610508. *corresponding author.

7. Posch W, Steger M, **Wilflingseder D**, Lass-Flörl C. (2017). Promising immunotherapy against fungal diseases. **Expert Opin Biol Ther**. 17(7):861-870. doi: 10.1080/14712598.2017.1322576. Epub 2017 May 2. Review. PubMed PMID: 28429626.

8. Posch W, Lass-Flörl C, **Wilflingseder D***. (2016). Generation of Human Monocyte-derived Dendritic Cells from Whole Blood. **J Vis Exp**. 24;(118). doi:10.3791/54968. PubMed PMID: 28060313.

9. Connell BJ, Chang SY, Prakash E, Yousfi R, Mohan V, Posch W, **Wilflingseder D**, Moog C, Kodama EN, Clayette P, Lortat-Jacob H. (2016). A Cinnamon-Derived Procyanidin Compound Displays Anti-HIV-1 Activity by Blocking Heparan Sulfate- and Co-Receptor- Binding Sites on gp120 and Reverses T Cell Exhaustion via Impeding Tim-3 and PD-1 Upregulation. **PLoS One**. 2016 Oct 27;11(10):e0165386. doi: 10.1371/journal.pone.0165386. PubMed PMID: 27788205; PubMed Central PMCID:PMC5082894.

10. Kapferer-Seebacher I, Pepin M, Werner R, et al. (2016). Periodontal Ehlers-Danlos Syndrome Is Caused by Mutations in C1R and C1S, which Encode Subcomponents C1r and C1s of Complement. **Am J Hum Genet**. 2016 Nov 3;99(5):1005-1014. doi: 10.1016/j.ajhg.2016.08.019. PubMed PMID: 27745832; PubMed Central PMCID: PMC5097948.

11. Posch W, Steger M, Knackmuss U, Blatzer M, Baldauf HM, Doppler W, White TE, Hörtnagl P, Diaz-Griffero F, Lass-Flörl C, Hackl H, Moris A, Keppler OT, **Wilflingseder D*.** (2015). Complement-Opsonized HIV-1 Overcomes Restriction in Dendritic Cells. **PLoS Pathog**. 11(6):e1005005. doi: 10.1371/journal.ppat.1005005.*corresponding author.

12. Blatzer M, Jukic E, Posch W, Schöpf B, Binder U, Steger M, Blum G, Hackl H, Gnaiger E, Lass-Flörl C, **Wilflingseder D***. (2015). Amphotericin B Resistance in *Aspergillus terreus* Is Overpowered by Coapplication of Pro-oxidants. **Antioxid Redox Signal**. 23(18):1424-38. doi: 10.1089/ars.2014.6220. PubMed PMID: 26054424. *corresponding author.

13. Blatzer M, Blum G, Jukic E, Posch W, Gruber P, Nagl M, Binder U, Maurer E, Sarg B, Lindner H, Lass-Flörl C, **Wilflingseder D***. (2015). Blocking Hsp70 enhances the efficiency of amphotericin B treatment against resistant Aspergillus terreus strains. **Antimicrob Agents Chemother**. 59(7):3778-88. doi: 10.1128/AAC.05164-14. PMID: 25870060; *corresponding author.

14. **Wilflingseder D**, Schroll A, Hackl H, Gallasch R, Frampton D, Lass-Flörl C, Pancino G, Saez-Cirion A, Lambotte O, Weiss L, Kellam P, Trajanoski Z, Geijtenbeek T, Weiss G, Posch W. (2015). Immediate T-Helper 17 Polarization Upon Triggering CD11b/c on HIV-Exposed Dendritic Cells. **J Infect Dis**. 212(1):44-56. doi: 10.1093/infdis/jiv014.PubMed PMID: 25583169.

15. Posch W, Pfaller K, Lass-Flörl C, **Wilflingseder D***. (2014). The viral make-up makes a world of difference. **AIDS Res Hum Retrov**. 30(7):642-3. doi: 10.1089/aid.2014.0061. *corresponding author.

16. Theurl M, Nairz M, Schroll A, Sonnweber T, Asshoff M, Haschka D, Seifert M, Willenbacher W, **Wilflingseder D**, Posch W, Murphy AT, Witcher DR, Theurl I, Weiss G. (2014). Hepcidin as a predictive factor and therapeutic target in erythropoiesis-stimulating agent treatment for anemia of chronic disease in rats. **Haematologica**. 99(9):1516-24. doi: 10.3324/haematol.2013.099481.

17. Ehrlenbach S, Rosales A, Posch W, **Wilflingseder D**, Hermann M, Brockmeyer J, Karch H, Satchell SC, Würzner R, Orth-Höller D. (2013). Shiga toxin 2 reduces complement inhibitor CD59 expression on human renal tubular epithelial and glomerular endothelial cells. **Infect Immun**. 81(8):2678-85. doi:10.1128/IAI.01079-12.

18. Lass-Flörl C, Roilides E, Löffler J, **Wilflingseder D**, Romani L. (2013). Minireview: host defence in invasive aspergillosis. **Mycoses.** 2013 Jul;56(4):403-13. doi: 10.1111/myc.12052.

19. Huemer HP, Geiger M, Posch W, Krumböck N, Fresser F, **Wilflingseder D**, Uberall F. (2013). Protein kinase C overexpression does not enhance immune-stimulatory surface markers of vaccinia-infected dendritic cells and DC cell lines. **Immunol Invest**. 42(2):164-77. doi: 10.3109/08820139.2012.750340.