

LUKAS FLATZ, M.D.

SNSF Professor, Senior Consultant (OAmbF)
Board Certified (F.M.H., Swiss Medical Association) in Dermatology
Principal Investigator at the Institute of Immunobiology

Kantonsspital St.Gallen
Rorschacher Strasse 95
9007 St. Gallen
Switzerland
Phone: 0041 71 494 1078
Cell: 0041 79 425 4113
Email: lukas.flatz@kssg.ch

Education and degrees

Swiss Board Exam in Dermatology (F.M.H.)	11/2013
Medical doctorate, University of Berne, Switzerland	2004
Swiss medical degree (Staatsexamen)	2004
Medical School, University of Berne, Switzerland	1998-2004
High School, Vaduz, Principality of Liechtenstein	1990-1998

Current and previous positions

2/2015-today

Senior Consultant(OAmbF) at the Clinic for Dermatology and Group Leader at the Institute of Immunobiology, Kantonsspital St.Gallen, St. Gallen, Switzerland

1/2015-4/2016

Ärztlicher Leiter ad interim, Clinic for Dermatology, Kantonsspital St. Gallen

1/2011-3/2014

Resident, Department of Dermatology, University Hospital Lausanne, Switzerland, Head: Prof. M. Gilliet, M.D.

12/2009-12/2010

Senior Scientist, Institute for Infectious Diseases, University of Bern, Switzerland. Head: Prof. K. Mühlemann, M.D. Ph.D.

1/2008-11/2009

Postdoctoral Fellow, Laboratory of Virology, Vaccine Research Center, NIAID, National Institutes of Health, Bethesda MD, USA. Head: Gary Nabel, M.D. Ph.D

2/2005-12/2007

Postdoctoral Fellow, Institute of Experimental Immunology, University Hospital of Zurich, Switzerland. Laboratory of Prof. R. M. Zinkernagel and Prof. H. Hengartner
Group Leader: PD Dr. D. D. Pinschewer and Prof. D. D. Pinschewer (University of Geneva)

10/2006-11/2006

Training and Animal Experiments in BSL-4 lab at the Bernhard-Nocht-Institute for Tropical Medicine, Hamburg, Germany. (Head: Prof. Dr. med. S. Günther) (see publication in PLoS Pathogens, 2010)

1/2003-10/2004

Medical Doctorate, Department of Internal Medicine, Inselspital, Bern, Switzerland.
Laboratory of Prof. P. Cottagnoud

Ph.D. supervision

Ph.D. students:

- Toni Rieger, Bernhard-Nocht Institute, Hamburg (see PLoS Pathogens, indirect supervision)
- Rahul Roychoudhuri, Vaccine Research Center, NIH, USA (see PNAS, indirect supervision)
- Leticia Barba, Department of Dermatology, University of Lausanne. (see JVI, direct supervision)
- Sandra Ring, Institute of Immunobiology, St. Gallen (current student, direct supervision)
- Michal Krolik, Institute of Immunobiology, St. Gallen (current student, direct supervision)
- Fiamma Berner, Institute of Immunobiology, St. Gallen (current student, direct supervision)

M.D. thesis:

- Omar Hasan Ali, Clinic for Dermatology, Kantonsspital St.Gallen and University Hospital Zurich. (current student, direct supervision)
- Mirjam Fässler, Institute of Immunobiology, Kantonsspital St.Gallen and University Hospital Zurich (current student, direct supervision)

Teaching Experience

- Course in Experimental Immunology for the ETH (every summer during my postdoctoral fellowship in Zurich).
- MD students in dermato-histopathology and out- and in-patients at the CHUV, Lausanne (2011-2014).
- Microbiology in the Hot Zone, Ph.D. program, University of Lausanne, Workshop, 2013.
- Prostate Cancer and Melanoma: from Bench to Bedside, 6 ECTS, University of Zurich Course (2015 and 2016)

Awards

- Pfizer Prize 2011
- Leenaards Junior Clinical Scientist 2012
- Medic Prize 2013
- Swiss Skin Cancer Award 2014

Co-Founder

- ArenaVax AG
- Hookipa Biotech AG

Publications

1. Hasan Ali O, Diem S, Markert E, Jochum W, Kerl K, French L, Speiser D, Früh M, **Flatz L**: Characterization of nivolumab associated skin reactions in patients with metastatic non-small cell lung cancer, *OncoImmunology Article*: e1231292 , Accepted 27 Aug 2016, Accepted author version posted online: 19 Sep 2016, Published online: 19 Sep 2016
2. Demaria O, De Gassart A, Coso S, Gestermann N, Di Domizio J, **Flatz L**, Gaide O, Michielin O, Hwu P, Petrova TV, Martinon F, Modlin RL, Speiser DE, Gilliet M. STING activation of tumor endothelial cells initiates spontaneous and therapeutic antitumor immunity. *Proc Natl Acad Sci U S A*. 2015 Dec 15;112(50):15408-13. doi: 10.1073/pnas.1512832112. Epub 2015 Nov 25.
3. Bhattacharya A, Hegazy AN, Deigendesch N, Kosack L, Cupovic J, Kandasamy RK, Hildebrandt A, Merkler D, Kühl AA, Vilagos B, Schliehe C, Panse I, Khamina K, Baazim H, Arnold I, **Flatz L**, Xu HC, Lang PA, Aderem A, Takaoka A, Superti-Furga G, Colinge J, Ludwig B, Löhning M, Bergthaler A.: Superoxide Dismutase 1 Protects Hepatocytes from Type I Interferon-Driven Oxidative Damage. *Immunity*. 2015 Nov 17;43(5):974-86. doi: 10.1016/j.immuni.2015.10.013.
4. Sommerstein R*, **Flatz L***, Remy MM, Malinge P, Magistrelli G, Fischer N, Sahin M, Bergthaler A, Igonet S, Ter Meulen J, Rigo D, Meda P, Rabah N, Coutard B, Bowden TA, Lambert PH, Siegrist CA, Pinschewer DD: Arenavirus Glycan Shield Promotes Neutralizing Antibody Evasion and Protracted Infection. *PLoS Pathog*. 2015 Nov 20;11(11):e1005276. doi: 10.1371/journal.ppat.1005276. eCollection 2015 Nov. ***shared first authorship**
5. Johnson S, A. Bergthaler, F Graw, **L Flatz**, WV Bonilla, CA Siegrist, PH Lambert, RR Regoes RR6, DD Pinschewer: Protective Efficacy of Individual CD8+ T Cell Specificities in Chronic Viral Infection. *J Immunol*. 2015 Jan 7. pii: 1401771. [Epub ahead of print]
6. Roychoudhuri R, Lefebvre F, Honda M, Pan L, Ji Y, Klebanoff CA, Nichols C, Fourati S, Hegazy AN, Goulet JP, Gattinoni L, Nabel GJ, Gilliet M, Cameron M, Restifo NP, Sekaly RP, **L Flatz**. The transcriptional program of vaccine-induced CD8+ T cell memory. *Vaccine*. Oct. 2014.
7. Sommerstein R, A Bergthaler, B. Lee, **L Flatz**. Reversions to the original LCMV sequence in the cytosolic domain of GP2 of a recombinant envelope exchanged LCMV/Lassa virus results in gain of function. *J Virol*, 2014 Aug; 88(15):8340-8.
8. Zürcher S, Mooser C, Lüthi AU, Mühlemann K, Barbani MT, Mohacsi P, Garzoni C, Gorgievski-Hrisoho M, Schaller A, **Flatz L**. Sensitive and rapid detection of ganciclovir resistance by PCR based MALDI-TOF analysis. *J Clin Virol*. 2012 Aug;54(4):359-63.
9. **Flatz L**, Cheng C, Wang L, Foulds KE, Ko SY, Kong WP, Roychoudhuri R, Shi W, Bao S, Todd JP, Asmal M, Shen L, Donaldson M, Schmidt SD, Gall JG, Pinschewer DD, Letvin NL, Rao S, Mascola JR, Roederer M, Nabel GJ. Gene-based vaccination with a mismatched envelope protects against simian immunodeficiency virus infection in nonhuman primates. *J Virol*. 2012 Aug;86(15):7760-70.
10. Kerber R, Rieger T, Busch C, **Flatz L**, Pinschewer DD, Kümmerer BM, Günther S. Cross-species analysis of the replication complex of Old World arenaviruses reveals two nucleoprotein sites involved in L protein function. *J Virol*. 2011

Dec;85(23):12518-28.

11. **Flatz L**, Roychoudhuri R, Honda M, Filali-Mouhim A, Goulet JP, Kettaf N, Lin M, Roederer M, Haddad EK, Sékaly RP, Nabel GJ. Single-cell gene-expression profiling reveals qualitatively distinct CD8 T cells elicited by different gene-based vaccines. *Proc Natl Acad Sci U S A*. 2011 Apr 5;108(14):5724-9.
12. Bergthaler* A, **Flatz L***, Hegazy AN, Johnson S, Horvath E, Löhning M, Pinschewer DD. Viral replicative capacity is the primary determinant of lymphocytic choriomeningitis virus persistence and immunosuppression. *Proc Natl Acad Sci U S A*. 2010 Dec 14;107(50):21641-6. ***shared first authorship**
13. Pinschewer DD, **Flatz L**, Steinborn R, Horvath E, Fernandez M, Lutz H, Suter M, Bergthaler A. Innate and adaptive immune control of genetically engineered live-attenuated arenavirus vaccine prototypes. *Int Immunol*. 2010 Sep;22(9):749-56.
14. **Flatz L**, Rieger T, Merkler D, Bergthaler A, Regen T, Schedensack M, Bestmann L, Verschoor A, Kreutzfeldt M, Brück W, Hanisch UK, Günther S, Pinschewer DD. T cell-dependence of Lassa fever pathogenesis. *PLoS Pathog*. 2010 Mar 26;6(3):e1000836.
15. **Flatz L**, Hegazy AN, Bergthaler A, Verschoor A, Claus C, Fernandez M, Gattinoni L, Johnson S, Kreppel F, Kochanek S, Broek Mv, Radbruch A, Lévy F, Lambert PH, Siegrist CA, Restifo NP, Löhning M, Ochsenein AF, Nabel GJ, Pinschewer DD. Development of replication-defective lymphocytic choriomeningitis virus vectors for the induction of potent CD8+ T cell immunity. *Nat Med*. 2010 Mar;16(3):339-45.
16. Hegazy AN, Peine M, Helmstetter C, Panse I, Fröhlich A, Bergthaler A, **Flatz L**, Pinschewer DD, Radbruch A, Löhning M. Interferons direct Th2 cell reprogramming to generate a stable GATA-3(+)T-bet(+) cell subset with combined Th2 and Th1 cell functions. *Immunity*. 2010 Jan 29;32(1):116-28.
17. *Bergthaler A, **Flatz L***, Verschoor A, Hegazy AN, Holdener M, Fink K, Eschli B, Merkler D, Sommerstein R, Horvath E, Fernandez M, Fitsche A, Senn BM, Verbeek JS, Odermatt B, Siegrist CA, Pinschewer DD. Impaired antibody response causes persistence of prototypic T cell-contained virus. *PLoS Biol*. 2009 Apr 7;7(4):e1000080. ***shared first authorship**
18. Lang PA, Cervantes-Barragan L, Verschoor A, Navarini AA, Recher M, Pellegrini M, **Flatz L**, Bergthaler A, Honda K, Ludewig B, Ohashi PS, Lang KS. Hematopoietic cell-derived interferon controls viral replication and virus-induced disease. *Blood*. 2009 Jan 29;113(5):1045-52.
19. Heikenwalder M, Prinz M, Zeller N, Lang KS, Junt T, Rossi S, Tumanov A, Schmidt H, Priller J, **Flatz L**, Rüllicke T, Macpherson AJ, Holländer GA, Nedospasov SA, Aguzzi A. Overexpression of lymphotoxin in T cells induces fulminant thymic involution. *Am J Pathol*. 2008 Jun;172(6):1555-70.
20. Navarini AA, Recher M, Lang KS, Georgiev P, Meury S, Bergthaler A, **Flatz L**, Bille J, Landmann R, Odermatt B, Hengartner H, Zinkernagel RM. Increased susceptibility to bacterial superinfection as a consequence of innate antiviral responses. *Proc Natl Acad Sci U S A*. 2006 Oct 17;103(42):15535-9.

21. **Flatz L**, Bergthaler A, de la Torre JC, Pinschewer DD. Recovery of an arenavirus entirely from RNA polymerase I/II-driven cDNA. *Proc Natl Acad Sci U S A*. 2006 Mar 21;103(12):4663-8.
22. Cottagnoud P, Pfister M, Acosta F, Cottagnoud M, **Flatz L**, Kühn F, Müller HP, Stucki A. Daptomycin is highly efficacious against penicillin-resistant and penicillin- and quinolone-resistant pneumococci in experimental meningitis. *Antimicrob Agents Chemother*. 2004 Oct;48(10):3928-33.
23. **Flatz L**, Cottagnoud M, Kühn F, Entenza J, Stucki A, Cottagnoud P. Ceftriaxone acts synergistically with levofloxacin in experimental meningitis and reduces levofloxacin-induced resistance in penicillin-resistant pneumococci. *J Antimicrob Chemother*. 2004 Feb;53(2):305-10.
24. Cottagnoud P, Cottagnoud M, Acosta F, **Flatz L**, Kühn F, Stucki A, Entenza J. Meropenem prevents levofloxacin-induced resistance in penicillin-resistant pneumococci and acts synergistically with levofloxacin in experimental meningitis. *Eur J Clin Microbiol Infect Dis*. 2003 Nov;22(11):656-62.
25. Kühn F, Cottagnoud M, Acosta F, **Flatz L**, Entenza J, Cottagnoud P. Cefotaxime acts synergistically with levofloxacin in experimental meningitis due to penicillin-resistant pneumococci and prevents selection of levofloxacin-resistant mutants in vitro. *Antimicrob Agents Chemother*. 2003 Aug;47(8):2487-91.

Reviews, Book Chapters & Case Reports

1. Hasan Ali O, Diem S, Aschwanden J, Markert E, Tasman AJ, Mueller J, Flatz L. GLUT1-positive recurrent basal cell carcinoma of basosquamous subtype detected by positron emission tomography. *JAAD Case Rep*. 2016 Oct 13;2(5):415-417.
2. Diem S, Keller F, Rüesch R, Maillard SA, Speiser DE, Dummer R, Siano M, Urner-Bloch U, Goldinger SM, **Flatz L**. Pembrolizumab-triggered Uveitis: An Additional Surrogate Marker for Responders in Melanoma Immunotherapy? *J Immunother*. 2016 Nov/Dec;39(9):379-382.
3. Bickel A, Koneth I, Enzler-Tschudy A, Neuweiler J, **Flatz L**, Früh M. Pembrolizumab-associated minimal change disease in a patient with malignant pleural mesothelioma. *BMC Cancer*. 2016 Aug 19;16:656. doi: 10.1186/s12885-016-2718-y.
4. Generation of Lymphocytic Choriomeningitis Virus Based Vaccine Vectors. Ring S, **Flatz L**. *Methods Mol Biol*. 2016;1404:351-64. doi: 10.1007/978-1-4939-3389-1_24.
5. Speiser DE, **L Flatz**. Cancer immunotherapy drives implementation science in oncology. *Human Vaccines & Immunotherapeutics* 10:11, 1--4; December 1, 2014
6. **Flatz L**, C. Conrad. Role of T-cell-mediated inflammation in psoriasis: pathogenesis and targeted therapy. *Psoriasis: Targets and Therapies*, 2013.

7. Olschlager S, **L Flatz**. Vaccination strategies against highly pathogenic arenaviruses: the next steps toward clinical trials, PLoS Pathogens, 2013.

8. Clayton H, **L Flatz**, S Vollenweider-Roten, A Schoepfer, M Gilliet, C Conrad. Anti-TNF therapy in the treatment of psoriasis in a patient with acute on chronic pancreatitis. Dermatology, 2013;227(3):193-6.

In German

1. **Flatz L**, DE Speiser. Immunologische Situation beim Melanom. Review Article. Review Onkologie info@onkologie 2014. 4:5-7.

2. Hasan OA, J Aschwanden, **L Flatz**. Diagnostik und Behandlung von Basalzellkarzinomen. InFo ONKOLOGIE & HÄMATOLOGIE 2014; Vol. 2, Nr. 9

Patents

1. Replication-defective Arenavirus Vectors.
International Publication Date: 9 July 2009
International Publication Number: WO 2009/083210 A1

2. Prime-boost vaccine strategies incorporating lymphocytic choriomeningitis virus vaccines to protect against lentiviral infection.
U.S. Patent Application No. 61/489,205, filed on May 23, 2011

Medical thesis

Resistenzentwicklung Penicillinresistenter Pneumokokken gegenüber Fluorchinolonen.
Medizinische Fakultät der Universität Bern. Supervisor Prof. Dr. med. P. Cottagnoud
Bern, 12/2004