Tim Sparwasser

Name: Prof. Dr. med. Tim Sparwasser
Date and place of birth: January 8, 1969, in Mainz, Germany

Periods of academic training

1989-1995	Studies of Medicine, Universities of Mainz, Munich and Stony Brook University, New York, USA
1996	Doctor of Medicine (Dr. med.), Johannes Gutenberg-University Mainz („magna cum laude“)
1997	License to practise medicine (Approbation)
2008	Habilitation in Medical Microbiology at Technical University Munich
2008	Board certification as Medical Microbiologist (Facharztprüfung)

Previous scientific work

1996-1999	Clinical Fellow, Institute of Medical Microbiology, Immunology and Hygiene – Laboratory of Prof. H. Wagner, Technical University of Munich
1999-2002	Postdoctoral Fellow, Skirball Institute of Biomolecular Medicine, New York University Medical Centre, New York, USA
2002-2008	Group Leader at the Institute of Medical Microbiology, Immunology and Hygiene – Technical University of Munich
2008-	Full Professor (W3) of Infection Immunology and Director, Institute of Infection Immunology (Twincore), Hannover Medical School

Awards

1989-1995	Scholarship of the German National Merit Foundation
1999	Young Investigator Award from the German Society for Hygiene and Microbiology (DGHM)
1999	“Howard Hughes Postdoctoral Fellowship Award for Physicians”

Publications (2006 - 2011)

1. Woller, N., S. Knocke, B. Mundt, E. Gürlevik, N. Strüver, M.P. Manns, N.P. Malek, T. Sparwasser, L. Zender, T.C. Wirth, F. Kühnel, and S. Kubicka. Tumor-Specific viral inflammation facilitates effective dendritic cell cancer immunotherapy in a regulatory T Cell-dependent manner. *JCI (in press)*
2. Seung, E., B. Medoff, T. Sparwasser, and A. Luster. Inhibiting CXCR3-dependent CD8+ T-cell trafficking enhances tolerance induction in a mouse model of lung rejection. *JI (in press)*
3. Oliver, A., A. Sainz-Perez, H. Dong, T. Sparwasser, L. Majlessi and C. Leclerc The adjuvant effect of TLR agonists on $CD4^+$ effector T cells is under the indirect control of regulatory T cells. EJI Apr 29 *(*Epub ahead of print*)*
4. Paust, H-J., A. Ostmann, A. Erhardt, J-E. Turner, H-W. Mittrücker, T. Sparwasser, U. Panzer, and G. Tiegs. Regulatory T cells control the Th1 immune response in murine crescentic glomerulonephritis. *Kidney International* 2011 Apr. 27 *(*Epub ahead of print)
5. McNally, A.N., G.R. Hill, T. Sparwasser, R. Thomas, and R.J. Steptoe. CD4+CD25+ regulatory T cells control CD8+ T-cell effector differentiation by modulating IL-2 homeostasis. *PNAS* 2011 Apr 18. (Epub ahead of print)
6. Wheeler, K., S. Tardif, C. Rival, B. Luu, E. Bui, R. Del Rio, T. Sparwasser, C. Teuscher, D.M. Hardy, and K.S.K. Tung. Regulatory T cells control tolerogenic versus autoimmune response to sperm in vasectomized mice. *PNAS* 2011 Apr 18. (Epub ahead of print)
7. Hackl, D., J. Loschko, T. Sparwasser, W. Reindl, and A. Krug. Activation of dendritic cells via TLR7 reduces Foxp3 expression and suppressive function in induced Tregs. *EJI* (2011 Mar 7 (Epub ahead of print)

8. Hellingman A. A., E.P.M. van der Vlugt, M.A. Lijkwan, A.J.N.M. Bastiaansen, T. Sparwasser, H.H. Smits, J.F. Hamming, P.H.A. Quax. A limited role for regulatory T cells in post-ischemic neovascularization *J Cell Mol Med* 2011 Mar 22.(Epub ahead of print)
9. B. Blankenhaus, U.Klemm, ML Eschbach, T. Sparwasser, J. Huehn, AA. Kühl, C. Loddenkemper, T. Jacobs, M. Breloer. Strongyloides ratti infection induces expansion of Foxp3+ regulatory T cells that interfere with immune response and parasite clearance in BALB/c mice *JI*
10. Hadis, U., B. Wahl, O. Schulz, A. Schippers, N. Wagner, W. Müller, T. Sparwasser, R. Förster, and O. Pabst. 2011 Intestinal Tolerance Requires Gut Homing and Expansion of FoxP3+ Regulatory T cells in the Lamina Propria. *Immunity* 2011 Feb. 25;34(2):237-46 (Epub 2011 Feb 17)
11. Stagg, J., U. Divisekera, H. Duret, T. Sparwasser, M.W.L. Teng, P.K. Darcy, and M.J. Smyth. CD73-deficient mice have increased anti-tumor immunity and are resistant to experimental metastasis. *Cancer Research* 2011 Apr 15;71(8):2892-2900 (Epub 2011 Feb 3.)
12. Mayer, C.T., S. Floess, A.M. Baru, K. Lahl, J. Huehn, and T. Sparwasser. CD8+Foxp3+ T cells share developmental and phenotypic features with classical CD4+Foxp3+ regulatory T cells but lack potent suppressive activity. *EJI* 41(3):716-25 (Epub 2011 Feb 11)
13. Lahl, K. and T. Sparwasser. 2011. In vivo depletion of Foxp3+ Tregs using the DEREG mouse model. *Methods Mol Biol.* 2011;707:157-72. *Review*
14. M. Pellegrini, T. Calzascia, J. G. Toe, S. P. Preston, A. E. Lin, A. R. Elford, A. Shahinian, P. A. Lang, K. S. Lang, M. Morre, B. Assouline, K. Lahl, T. Sparwasser, T. F. Tedder, J. Paik, R. A. DePinho, S. Basta, P. S. Ohashi, and T. W. Mak. IL-7 engages multiple mechanisms to overcome chronic viral infection and limit organ pathology. *Cell* Feb. 18.2. 2011 144(4):601-13
15. Dietze, KK., G. Zelinskyy, K. Gibbert, S. Schimmer, S. Francois, L. Myers, T. Sparwasser, KJ Hasenkrug, and U. Dittmer. 2011 Transient depletion of regulatory T cells in transgenic mice reactivates virus-specific CD8+ T cells and reduces chronic retroviral setpoints. *Proc Natl Acad Sci U S A* Feb. 8. 108(6):2420-5
16. Vaeth M, Gogishvili T, Bopp T, Klein M, Berberich-Siebelt F, Gattenloehner S, Avots A, Sparwasser T, Grebe N, Schmitt E, Hünig T, Serfling E, Bodor J. 2011 Regulatory T cells facilitate the nuclear accumulation of inducible cAMP early repressor (ICER) and suppress nuclear factor of activated T cell c1 (NFATc1). *Proc Natl Acad Sci U S A* Feb 8;108(6):2480-5. (Epub 2011 Jan 24.)
17. Haque, A., S.E. Best, F.H. Amante, S. Mustafah, L. Desbarrieres, F.d. Labastida, T. Sparwasser, G.R. Hill, and C.R. Engwerda. 2010. CD4+ natural regulatory T cells prevent experimental cerebral malaria via CTLA-4 when expanded in vivo. *PLoS Pathog*. 2010 Dec 9;6(12):e1001221
18. Engel, D., A. Koscielny, S. Wehner, J. Maurer, M. Schiwon, L. Franken, B. Schumak, A. Limmer, T. Sparwasser, A. Hirner, P. Knolle, J. Kalff, and C. Kurts. 2010. Th1 memory cells disseminate postoperative ileus over the entire intestinal tract. *Nat Med* 16(12):1407-13.
19. Hubert, S., B. Rissiek, K. Klages, J. Hühn, T. Sparwasser, F. Haag, F. Koch-Nolte, O. Boyer, M. Seman, and S. Adriouch. 2010. Extracellular NAD^+ shapes the $Foxp3^+$ regulatory T cell compartment through the ART2/P2X7 pathway. *JEM* 207(12):2561-8.
20. Teng, M.W., S.F. Ngiow, B. von Scheidt, N. McLaughlin, T. Sparwasser, and M.J. Smyth. 2010. Conditional regulatory T-cell depletion releases adaptive immunity preventing carcinogenesis and suppressing established tumor growth. *Cancer Researc*h 70(20):7800-9.
21. Klages, K., C.T. Mayer, K. Lahl, C. Loddenkemper, MW Teng, S.F. Ngiow, M.J. Smyth, A. Hamann, J. Huehn, and T. Sparwasser. 2010. Selective depletion of Foxp3+ regulatory T cells improves effective therapeutic vaccination against established melanoma. *Cancer Research* 70(20):7788-7799

22. Navarro, S., G. Cossalter, C. Chiavaroli, A. Kanda, S. Fleury, A. Lazzari, J. Cazareth, T. Sparwasser, D. Dombrowicz, N. Glaichenhaus, and V. Julia. 2010. The oral administration of bacterial extracts prevents asthma via the recruitment of regulatory T cells to the airways. *Mucosal Immunol* 2011 Jan;4(1):53-65 (Epub 2010 Sept 1)
23. Arnold, I., J. Lee, M. Amieva, A. Roers, R. Flavell, T. Sparwasser, and A. Müller. 2010. Tolerance rather than immunity protects from Helicobacter pylori -induced gastric preneoplasia. *Gastroenterology* 2011 Jan;140(1):199-209 (Epub 2010 June 22)
24. Baru, A.M., A. Hartl, K. Lahl, J.K. Krishnaswamy, H. Fehrenbach, A. Yildirim, H. Garn, H. Renz, G. Behrens and T. Sparwasser. 2010. Selective depletion of Foxp3$^+$ regulatory T cells during sensitization phase aggravates experimental allergic airway inflammation. *EJI* 40(8):2259-66
25. Pechloff, K., J. Holch, U. Ferch, M. Schweneker, K. Brunner, M. Kremer, T. Sparwasser, L. Quintanilla-Martinez, U. Zimber-Strobl, B. Streubel, A. Gewies, C. Peschel, and J. Ruland. 2010. The fusion kinase ITK-SYK mimics a T-cell receptor signal and drives oncogenesis in conditional mouse models of peripheral T cell lymphoma. *JEM* 07(5):1031-44.
26. Suttner, K., M. Depner, M. Wetzke, N. Klopp, E. von Mutius, T. Illig, T. Sparwasser, and M. Kabesch. 2010. Genetic variants harbored in the forkhead box protein 3 locus increase hay fever risk. *JACI* 125(6):1395-9.
27. Boissonnas, A., A. Scholer-Dahirel, V. Simon-Blancal, L. Pace, F. Valet, A. Kissenpfennig, T. Sparwasser, B. Malissen, L. Fetler, and S. Amigorenga. 2010. FoxP3+ T cells induce perforin-dependent dendritic cell death in tumor-draining lymph nodes. *Immunity* 32(2):266-78.
28. Schildknecht, A., S. Brauer, C. Brenner, K. Lahl, H. Schild, T. Sparwasser*, H. C. Probst*, and M. v. d. Broek*. 2010 (Epub 2009). FoxP3+ regulatory T cells essentially contribute to peripheral CD8+ T cell tolerance induced by steady state dendritic cells. *PNAS* (107(1):199-203. **(equally contributed)*
29. Anz, D., V. H. Koelzer, S. Moder, R. Thaler, T. Schwerd, K. Lahl, T. Sparwasser, R. Besch, H. Poeck, V. Hornung, G. Hartmann, S. Rothenfusser, C. Bourquin, and S. Endres. 2010 (Epub 2009). Immunostimulatory RNA blocks suppression by regulatory T cells. *J Immunol* 184(2):939-46.
30. Kim, J., K. Lahl, S. Hori, C. Loddenkemper, A. Chaudhry, P. Deroos, A. Rudensky, and T. Sparwasser. 2009. Cutting Edge: Depletion of Foxp3+ Cells Leads to Induction of Autoimmunity by Specific Ablation of Regulatory T Cells in Genetically Targeted Mice. *J Immunol* 183(12):7631-7634.
31. Steeg, C., G. Adler, T. Sparwasser, B. Fleischer, and T. Jacobs. 2009. Limited role of CD4+Foxp3+ regulatory T cells in the control of experimental cerebral malaria. *J Immunol* 183:7014-7022.
32. Hmm, S., E. Latz, D. Hangel, T. Müller, P. Yu, D. Golenbock, T. Sparwasser, H. Wagner, and S. Bauer. 2010 (Epub 2009). Alternating 2'-O-ribose methylation is a universal approach for generating non-stimulatory siRNA by acting as TLR7 antagonist. *Immunobiology* 215(7):559-69.
33. Singh, S., J. Stephani, M. Schaefer, H. Kalay, J. J. García-Vallejo, J. den Haan, E. Saeland, T. Sparwasser, and Y. v. Kooyk. 2009. Targeting glycan modified OVA to murine DC-SIGN-transgenic dendritic cells enhances MHC class I and II presentation. *Molecular Immunol* 47(2-3):164-74.
34. Lahl, K., C. Mayer, T. Bopp, J. Huehn, C. Loddenkemper, G. Eberl, G. Wirnsberger, K. Dornmair, R. Geffers, E. Schmitt, J. Buer, and T. Sparwasser. 2009. Nonfunctional Regulatory T Cells and Defective Control of Th2 Cytokine Production in Natural Scurfy Mutant Mice. *J Immunol* 183(9):5662-72.
35. Rausch S., J. Huehn, C. Loddenkemper, M.R. Hepworth, C. Klotz, T. Sparwasser, A. Hamann, R. Lucius, and S. Hartmann. 2009. Establishment of Nematode Infection Despite Increased Th2 Responses and Immunopathology after Selective Depletion of Foxp3(+) Cells. *Eur J Immunol* 39(11):3066-3077.
36. Zelinskyy, G., K. Dietze, T. Sparwasser, and U. Dittmer. 2009. Regulatory T cells suppress antiviral immune responses and increase viral loads during acute infection with

a lymphotropic retrovirus. *PloS Pathogens 2009 Aug;5(8):e1000406 (Epub 2009 Aug 28)*
37. Zelinskyy, G., K. Dietze, Y. P. Hüsecken, S. Schimmer, S. Nair, T. Werner, K. Gibbert, O. Kershaw, A. D. Gruber, T. Sparwasser, and U. Dittmer. 2009. The regulatory T cell response during acute retroviral infection is locally defined and controls the magnitude and duration of the virus-specific cytotoxic T cell response. *Blood* 114(15):3199-207.
38. Siegemund, S., A. Hartl, H. v. Buttlar, F. Dautel, R. Raue, M. A. Freudenberg, G. Fejer, M. Büttner, G. Köhler, C. J. Kirschning, T. Sparwasser, and G. Alber. 2009. Conventional bone marrow-derived dendritic cells contribute to toll-like receptor-independent production of alpha/beta interferon in response to inactivated parapoxvirus ovis. *J Virol* 83(18): 9411-22.
39. von Allmen, C. E., N. Schmitz, M. Bauer, H. J. Hinton, M. Kurrer, R.B. Buser, M. Gwerder, S. Muntwiler, T. Sparwasser, R.R. Beerli, and M. F. Bachmann. 2009. Secretory phospholipase A2-IID is an effector molecule of $CD4^{+}CD25^{+}$ regulatory T cells. *PNAS* 106(28):11673-8.
40. Pellegrini, M., T. Calzascia, A. R. Elford, A. Shahinian, A. E. Lin, D. Dissanayake, S. Dhanji, L. T. Nguyen, M. A. Gronski, M. Morre, B. Assouline, K. Lahl, T. Sparwasser, P. S. Ohashi, and T. W. Mak. 2009. Adjuvant IL-7 antagonizes multiple cellular and molecular inhibitory networks to enhance immunotherapies. *Nat Med*. 15:528-536.
41. Osorio, F., S. LeibundGut-Landmann, M. Lochner, K. Lahl, T. Sparwasser, G. Eberl, and C. Reis e Sousa. 2008. DC activated via dectin-1 convert Treg into IL-17 producers. *Eur J Immunol* 38:3274-3281.
42. Heit, A., F. Gebhardt, K. Lahl, M. Neuenhahn, F. Schmitz, F. Anderl, H. Wagner, T. Sparwasser*, D. H. Busch, and K. Kastenmuller*. 2008. Circumvention of regulatory CD4(+) T cell activity during cross-priming strongly enhances T cell-mediated immunity. *Eur J Immunol* 38:1585-1597. **(equally contributed)*
43. Schaefer, M., N. Reiling, C. Fessler, J. Stephani, I. Taniuchi, F. Hatam, A. O. Yildirim, H. Fehrenbach, K. Walter, J. Ruland, H. Wagner, S. Ehlers, and T. Sparwasser. 2008. Decreased pathology and prolonged survival of human DC-SIGN transgenic mice during mycobacterial infection. *J Immunol* 180:6836-6845.
44. Sparwasser, T., and G. Eberl. 2007. BAC to immunology--bacterial artificial chromosome-mediated transgenesis for targeting of immune cells. *Immunology* 121:308-313. *(Review)*
45. Lahl, K., C. Loddenkemper, C. Drouin, J. Freyer, J. Arnason, G. Eberl, A. Hamann, H. Wagner, J. Huehn, and T. Sparwasser. 2007. Selective depletion of Foxp3+ regulatory T cells induces a scurfy-like disease. *J Exp Med* 204:57-63.
46. von Meyenn, F., M. Schaefer, H. Weighardt, S. Bauer, C. J. Kirschning, H. Wagner, and T. Sparwasser. 2006. Toll-like receptor 9 contributes to recognition of Mycobacterium bovis Bacillus Calmette-Guerin by Flt3-ligand generated dendritic cells. *Immunobiology* 211:557-565.
47. Gross, O., A. Gewies, K. Finger, M. Schafer, T. Sparwasser, C. Peschel, I. Forster, and J. Ruland. 2006. Card9 controls a non-TLR signalling pathway for innate anti-fungal immunity. *Nature* 442:651-656.
48. Klemm, S., J. Gutermuth, L. Hultner, T. Sparwasser, H. Behrendt, C. Peschel, T. W. Mak, T. Jakob, and J. Ruland. 2006. The Bcl10-Malt1 complex segregates Fc epsilon RI-mediated nuclear factor kappa B activation and cytokine production from mast cell degranulation. *J Exp Med* 203:337-347.