

CURRICULUM VITAE

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Date of birth: December 11th, 1968
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Education

- 12/2007 Postdoctoral lecture qualification, University of Münster Medical School
Thesis: "Effects of Langerhans cells and regulatory T cells on cutaneous immune responses"
- 10/1994 - 10/1998 Ph.D., Department of Molecular Biology, University of Münster, Germany (Major Subject: Molecular Biology, Minor Subjects: Biochemistry, Cell Biology)
Ph.D. thesis: "Molecular and cellular mechanisms determining the virulence of phytopathogenic fungi" (*summa cum laude*)
- 10/1989 - 09/1994 Biology Program (Diploma)
University of Münster, Germany
Diploma thesis: "Analysis of the genome structure of the phytopathogenic fungus *Gibberella*"

Professional Experience

- 01/2008 - present Assistant professor of immunology, leader of the department of immunology and cell biology of the skin, University of Münster, Germany
Research focus: regulation of inflammation, anti-tumoral and anti-microbial immunity in the skin
- 01/2006 - 12/2007 Principal Investigator, Department of Dermatology, University of Münster

- 02/2001 - 12/2005 Research Associate, Department of Dermatology, University of Münster, Germany
- 08/1999 - 01/2001 Postdoctoral Fellow, Department of Pharmacology and Toxicology, University of Münster, Germany
- 11/1998 - 07/1999 Lab Supervisor, BioCare-Biotechnology, Leipzig, Germany

Publications

A.)Original Articles

Loser K, Vogl T, Voskort M, Lueken A, Kupas V, Nacken W, Klenner L, Kuhn A, Foell D, Sorokin L, Luger TA, Roth J, Beissert S (2010). The Toll-like receptor 4 ligands Mrp8 and Mrp14 are crucial in the development of autoreactive CD8(+) T cells. *Nat Med* 16:713-717

Loser K, Brzoska T, Oji V, Auriemma M, Voskort M, Kupas V, Klenner L, Mensing C, Hauschild A, Beissert S, Luger TA (2010). The neuropeptide alpha-melanocyte-stimulating hormone is critically involved in the development of cytotoxic CD8+ T cells in mice and humans. *PLoS One* 5:e8958

Wu C, Rauch U, Korpos E, Song J, **Loser K**, Crocker PR, Sorokin LM (2009). Sialoadhesin-positive macrophages bind regulatory T cells, negatively controlling their expansion and autoimmune disease progression. *J Immunol* 182:6508-6516

Wu C, Ivars F, Anderson P, Hallmann R, Vestweber D, Nilsson P, Robenek H, Tryggvason K, Song J, Korpos E, **Loser K**, Beissert S, Georges-Labouesse E, Sorokin LM (2009). Endothelial basement membrane laminin alpha5 selectively inhibits T lymphocyte extravasation into the brain. *Nat Med* 15:519-527

Loser K, Sturm A, Voskort M, Kupas V, Balkow S, Auriemma M, Sternemann C, Dignass AU, Luger TA, Beissert S (2009). Galectin-2 suppresses contact allergy by inducing apoptosis in activated CD8+ T cells. *J Immunol* 182:5419-5429

Oji V, Seller N, Sandilands A, Gruber R, Gerss J, Hüffmeier U, Hamm H, Emmert S, Aufenvenne K, Metze D, Luger T, **Loser K**, Hausser I, Traupe H, McLean WH (2009). Ichthyosis vulgaris: novel FLG mutations in the German population and high presence of CD1a+ cells in the epidermis of the atopic subgroup. *Br J Dermatol* 160:771-781

Balkow S, **Loser K**, Krummen M, Higuchi T, Rothoef T, Apelt J, Tuettenberg A, Weishaupt C, Beissert S, Grabbe S (2009). Dendritic cell activation by combined exposure to anti-CD40 plus interleukin (IL)-12 and IL-18 efficiently stimulates anti-tumor immunity. *Exp Dermatol* 18:78-87

Balkow S, Krux F, **Loser K**, Becker JU, Grabbe S, Dittmer U (2007). Friend retrovirus infection of myeloid dendritic cells impairs maturation, prolongs contact to naïve T cells, and favors expansion of regulatory T cells. *Blood* 110:3949-3958

Loser K, Apelt J, Voskort M, Mohaupt M, Balkow S, Schwarz T, Grabbe S, Beissert S (2007). IL-10 controls ultraviolet-induced carcinogenesis in mice. *J Immunol* 179:365-371

Ehrchen J, Helming L, Varga G, Pasche B, **Loser K**, Gunzer M, Sunderkötter C, Sorg C, Roth J, Lengeling A (2007). Vitamin D receptor signaling contributes to susceptibility to infection with *Leishmania major*. *FASEB J* 21:3208-3218

Reichardt P, Dornbach B, Rong S, Beissert S, Gueler F, **Loser K**, Gunzer M (2007). Naïve B-cells generate regulatory T-cells in the presence of a mature immunological synapse. *Blood*, 110:1519-1529

Loeser S, **Loser K**, Bijker MS, Rangachari M, van der Burg SH, Wada T, Beissert S, Melief CJM, Penninger JM (2007). Spontaneous tumor rejection by cbl-b deficient CD8+ T cells. *J Exp Med* 204:879-891

Loser K, Mehling A, Loeser S, Apelt J, Kuhn A, Grabbe S, Schwarz T, Penninger JM, Beissert S (2006). Epidermal RANKL controls regulatory T cell numbers via activation of dendritic cells. *Nat Med* 12:1372-1379

Rothoeft T, Balkow S, Krummen M, Beissert S, Varga G, **Loser K**, Oberbanscheidt P, van den Boom F, Grabbe S (2006). Structure and duration of contact between dendritic cells and T cells are controlled by T cell activation state. *Eur J Immunol* 36:3105-3117

Wethmar K, Helmus Y, Lühn K, Jones C, Laskowska A, Varga G, Grabbe S, Lyck R, Engelhardt B, Bixel MG, Butz S, **Loser K**, Beissert S, Ipe U, Vestweber D, Wild MK (2006). Migration of immature mouse DC across resting endothelium is mediated by ICAM-2 but independent of β_2 -integrins and murine DC-SIGN homologues. *Eur J Immunol* 36:2781-2794

Hansen W, **Loser K**, Westendorf AM, Bruder D, Pfoertner S, Siewert C, Huehn J, Beissert S, Buer J (2006). G protein-coupled receptor 83 overexpression in naive CD4+CD25- T cells leads to the induction of Foxp3+ regulatory T cells in vivo. *J Immunol* 177:209-215

Loser K, Balkow S, Higuchi T, Apelt J, Kuhn A, Luger TA, Beissert S (2006). FK506 controls CD40L-induced systemic autoimmunity in mice. *J Invest Dermatol* 126:1307-1315

Riemann H*, **Loser K***, Beissert S, Fujita M, Schwarz A, Schwarz T, Grabbe S (2005). IL-12 breaks dinitrothiocyanobenzene (DNTB) mediated tolerance and converts the tolerogen DNTB into an immunogen. *J Immunol* 175:5866-5874

* contributed equally

Loser K, Hansen W, Apelt J, Balkow S, Buer J, Beissert S (2005). In vitro- generated regulatory T cells induced by *Foxp3*-retrovirus infection control murine contact allergy and systemic autoimmunity. *Gene Ther* 12:1294-1304

Loser K, Scherer A, Krummen MBW, Varga G, Higuchi T, Schwarz T, Sharpe AH, Grabbe S, Bluestone JA, Beissert S (2005). An important role of CD80/CD86-CTLA-4 signaling during photocarcinogenesis in mice. *J Immunol* 174:5298-5305

Müller FU, Lewin G, Baba HA, Boknik P, Fabritz L, Kirchhefer U, Kirchhof P, **Loser K**, Matus M, Neumann J, Riemann B, Schmitz W (2005). Heart-directed expression of a human cardiac isoform of cAMP-response element modulator in transgenic mice. *J Biol Chem* 280:6906-6914

Loser K, Mehling A, Apelt J, Ständer S, Andres PG, Reinecker HC, Eing BR, Skryabin BV, Varga G, Schwarz T, Beissert S (2004). Enhanced contact hypersensitivity and antiviral immune responses in vivo by keratinocyte-targeted overexpression of IL-15. *Eur J Immunol* 34:2022–2031

Bruder D, Probst-Kepper M, Westendorf AM, Geffers R, Beissert S, **Loser K**, von Boehmer H, Buer J, Hansen W (2004). Neuropilin-1: a surface marker of regulatory T cells. *Eur J Immunol* 34:623–630

Müller FU*, **Loser K***, Kleideiter U, Neumann J, von Wallbrunn C, Dobner T, Scheld HH, Bantel H, Engels IH, Schulze-Osthoff K, Schmitz W (2004). Transcription factor AP-2alpha triggers apoptosis in cardiac myocytes. *Cell Death Differ* 11:485–493
* contributed equally

Kess D, Peters T, Zamek J, Wickenhauser C, Tawadros S, **Loser K**, Varga G, Grabbe S, Nischt R, Sunderkötter C, Müller W, Krieg T, Scharffetter-Kochanek K (2003). CD4+ T cell-associated pathophysiology critically depends on CD18 gene dose effects in a murine model of psoriasis. *J Immunol* 171:5697–5706

Mehling A, **Loser K**, Varga G, Metze D, Luger TA, Schwarz T, Grabbe S, Beissert S (2001). Overexpression of CD40 ligand in murine epidermis results in chronic skin inflammation and systemic autoimmunity. *J Exp Med* 194:615–628

B.) Reviews and Book Chapters

Loser K, Beissert S (2009). Regulation of cutaneous immunity by the environment: An important role for UV irradiation and vitamin D. *Int Immunopharmacol* 9:587-589

Beissert S, **Loser K** (2008). Molecular and cellular mechanisms of photocarcinogenesis. *Photochem Photobiol* 84:29-34

Luger TA, Brzoska T, **Loser K**, Böhm M (2008). Regulation of immune cells by POMC peptides. In: Granstein RD, Luger TA (Editors), *Neuroimmunology of the skin*, Springer Verlag, pp 55-63

Loser K, Beissert S (2007). Dendritic cells and T cells in the regulation of cutaneous immunity. *Adv Dermatol* 23:307-333

Loser K, Beissert S (2006). Therapeutic modulation of cutaneous autoimmunity by regulatory T cells. *Rheumatol* 45:iii20-iii22

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Loser K, Apelt J, Beissert S (2006). T cells and dendritic cells in immuno-mediated skin pathology. In: The skin in systemic autoimmune diseases. Handbook of systemic autoimmune diseases. Vol. 5; Editors: Sarzi-Puttini P, Doria A, Girolomoni G, Kuhn A. Elsevier Publishers pp 11-21

Michalke M, Stepczynska A, Burek M, Bui TN, **Loser K**, Krzemieniecki K, Los M (2002). Caspases as targets for drug development. In: Caspases – their role in cell death and cell survival; Editors: Los M, Walczak H. Kluwer Academic Plenum Publishers pp 221-235