Expanded Academic Curriculum Vitae Thomas Tüting, MD

Personal Information

Name:	Thomas Tüting
Date of birth:	31st January 1962 in Esslingen/N.
Family status:	Married, 5 children
Home address:	Kirchstraße 4, 39120 Magdeburg, Germany Tel.: +49-179-2037868
Position:	Professor and Chairman of Dermatology Otto-von-Guericke University Magdeburg Director Dept. of Dermatology University Hospital Magdeburg
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High School Education

1976 – 1978	Elkhart Central High School, Elkhart, USA (American Highschool Diploma)
1978 – 1980	Lichtenberg-Gymnasium, Bruchköbel (German Highschool Diploma)
1981 – 1987	Medical School, J. W. Goethe-Universität in Frankfurt/Main
1987	German Medical Licensing Examination, USA ECFMG certificate

Medical School and Clinical Education

1988 – 1991	Service as drafted Medical Officer in the German Airforce
1991 – 1995	Residency in Dermatology at the Army Hospital Munich, the Army Hospital Koblenz and the University Hospital Mainz, Germany
1998	Board certification in Dermatology
2001	Board certification in Allergy
2007	Board certification in Dermatopathology and Medical Tumor Therapy

Scientific Education

1995 – 1997	Research Fellow at the University of Pittsburgh Cancer Institute, USA, in the Laboratories of Prof. Michael Lotze and Prof. Albert DeLeo Training in basic tumor immunology and gene therapy

Clinical and scientific work experience

1998 – 2001	Staff Dermatologist, University Hospital Mainz, Germany Training in dermatopathology and dermatologic oncology Establishment as an independent investigator within the Collaborative Research Project SFB 432 at the University of Mainz, Germany
2002 - 2015	Associate Professor for Dermatology, University of Bonn Head Dermato-Oncology and Laboratory for Experimental Dermatology Dept. of Dermatology, University Hospital Bonn, Germany Participation in the DFG Collaborative Research Units FOR 372, FOR 936, SFB 704, SFB 832, SFB 854 and the German Excellence Initiative “Immunosensation”.
since 2015	Professor and Chairman of Dermatology, Otto-von-Guericke University Magdeburg Director Department of Dermatology; University Hospital Magdeburg, Germany

Awards

2000	Award of the Erich Hoffmann Society Bonn
2006	Translational Research Award of the German Society for Dermatologic Research
2009	Steigleder Dermatopathology Award
2014	German Skin Cancer Award of the German Skin Cancer Foundation
2015	Photodermatology Research Award

Research achievements (9 selected)

Establishment of novel genetic mouse model systems for melanoma to study tumor-immune cell interactions and to develop novel approaches for immunotherapy

Our group has a long-standing interest to understand the role of the immune system in the pathogenesis of melanoma with the goal to develop novel strategies for immunotherapy. My laboratory pioneered the establishment of novel genetic mouse model systems to more adequately portray the clinical situation of melanoma observed in patients. We combined experimental tools of tumor biology and tumor immunology to study the dynamic and reciprocal interactions between tumor and immune cells during disease progression and in response to therapeutic intervention. In initial work, we explored genetic vaccine strategies and the use of synthetic oligonucleotides to strongly activate the type I IFN system in the tumor microenvironment and stimulate anti-tumoral T cell responses. We discovered that simultaneous triggering of endosomal and cytosolic antiviral pattern recognition receptors supports T cell effector functions and promote tumor cell death.

1. Tormo D, Ferrer A, Bosch P, Gaffal E, Basner-Tschakarjan E, Wenzel J, **Tüting T**. Therapeutic efficacy of antigen-specific vaccination and toll-like receptor stimulation against established transplanted and autochthonous melanoma in mice. *Cancer Res* 66: 5427-5435, 2006. 84 citations in Google Scholar.
2. Poeck H, Besch R, Maihoefer C, Renn M, Tormo D, Shulga Morskaya S, Kirschnek S, Gaffal E, Landsberg J, Hellmuth J, Schmidt A, Anz D, Bscheider M, Schwerd T, Berking C, Bourquin C, Kalinke U, Kremmer E, Kato H, Akira S, Meyer R, Häcker G, Neuenhahn M, Busch D, Ruland J, Rothenfusser S, Prinz M, Hornung V, Endres S, **Tüting T***, Hartmann G*. 5'-triphosphate-siRNA: turning gene silencing and Rig-I activation against melanoma. *Nat Med* 14: 1256-63, 2008. (*corresponding authors). 468 citations in Google Scholar.
3. Kohlmeyer J, Cron M, Landsberg J, Bald T, Renn M, Mikus S, Bondong S, Wikasari D, Gaffal E, Hartmann G, **Tüting T**. Complete regression of advanced primary and metastatic mouse melanomas following combination chemoimmunotherapy. *Cancer Res* 69:6265-74, 2009.
4. Bald T, Landsberg J, Lopez-Ramos D, Renn M, Glodde N, Jansen P, Gaffal E, Steitz J, Tolba R, Kalinke U, Limmer A, Jönsson G, Hölzel M, **Tüting T**. Immune-cell poor melanomas benefit from PD-1 blockade after targeted type I IFN activation. *Cancer Discov*. 4:674-87, 2014. 275 citations in Google Scholar.

Plasticity of tumor and immune cells as a source of heterogeneity and a cause for therapy resistance

Experimental studies with adoptively transferred CD8+ T cells revealed that progressively growing autochthonous melanomas can resist cytotoxic T cell responses directed against melanocytic differentiation antigens through reversible dedifferentiation in an inflammatory microenvironment. We were among the first to discover this important mechanism of therapy resistance, that has emerged as a more general mechanism of how tumor cells resist various forms of cytotoxic therapies over the last decade.

5. Landsberg J, Kohlmeyer J, Renn M, Bald T, Rogava M, Cron M, Fatho M, Lennerz V, Wölfel T, Hölzel H, **Tüting T**. Melanomas resist T-cell therapy through inflammation-induced reversible dedifferentiation. *Nature*. 490:412-416, 2012. 584 citations in Google Scholar.

Promotion of melanoma migration along tumor blood vessels and metastatic dissemination following UVB-induced neutrophilic inflammation in the skin

Our group experimentally investigated the impact of sun burning doses of UVB irradiation on the development of primary and metastatic melanomas. In this work, we discovered that UVB-induced neutrophilic inflammatory responses in the skin promote melanoma cell migration along tumor blood vessels and hematogenous metastatic dissemination. Subsequent work demonstrates that c-met activation recruits neutrophils from the bone marrow with tumor growth promoting phenotypes.

6. Gaffal E, Landsberg J, Bald T, Sporleder A, Kohlmeyer J, **Tüting T**. Neonatal UVB exposure accelerates melanoma growth and enhances distant metastases in Hgf-Cdk4(R24C) C57BL/6 mice. *Int J Cancer*. 129:285-94, 2011.
7. Bald T, Quast T, Landsberg J, Rogava M, Glodde N, Lopez-Ramos D, Kohlmeyer J , Riesenberg,S. van den Boorn-Konijnenberg D, Hömig-Hölzel C, Reuten R, Schadow B, Weighardt I, Wenzel D,

Helfrich I, Schadendorf D, Bloch W, Bianchi ME, Koch M, Fleischmann BK, Förster I, Kastenmüller W, Kolanus W, Hölzel M, Gaffal E*, **Tüting T***. Ultraviolet radiation-induced inflammation promotes angiotropism and metastasis in melanoma. *Nature* 507:109-13, 2014. (*corresponding authors). 661 citations in Google Scholar.

8. Glodde N, Bald T, van den Boorn-Konijnenberg D, Nakamura K, O'Donnell JS, Szczepanski S, Brandes M, Eickhoff S, Das I, Shridhar N, Hinze D, Rogava M, van der Sluis TC, Ruotsalainen JJ, Gaffal E, Landsberg J, Ludwig KU, Wilhelm C, Riek-Burchardt M, Müller AJ, Gebhardt C, Scolyer RA, Long GV, Janzen V, Teng MWL, Kastenmüller W, Mazzone M, Smyth MJ, **Tüting T***, Hölzel M* Reactive Neutrophil Responses Dependent on the Receptor Tyrosine Kinase c-MET Limit Cancer Immunotherapy. *Immunity* 47:789-802, 2017. (* shared senior authorship). 222 citations in Google Scholar.

Contribution of CD4+ effector T cells to anti-tumor immunity and mechanisms of remote inflammatory tumor cell death

In recent work we demonstrated the ability of adoptively transferred CD4+ T cells to cooperate with tumouricidal myeloid cells in the tumor microenvironment and orchestrate remote inflammatory tumor cell death. This mechanism can also eradicate MHC-deficient and IFN-unresponsive melanoma cell clones that evade direct recognition and cytolytic destruction by CD8+ T cells. It shows the importance of intratumoral restimulation of T cells for effective anti-tumor immunity to occur.

9. Kruse B, Buzzai AC, Shridhar N, Braun AD, Gellert S, Knauth K, Pozniak J, Peters J, Dittmann P, Mengoni M, van der Sluis TC, Höhn S, Antoranz A, Krone A, Fu Y, Yu D, Essand M, Geffers R, Mougiakakos D, Kahlfuß S, Kashkar H, Gaffal E, Bosisio FM, Bechter O, Rambow F, Marine JC, Kastenmüller W, Müller AJ, **Tüting T**. CD4+ T cell-induced inflammatory cell death controls immune-evasive tumours. *Nature* 618:1033-1040, 2023.

Peer recognition

Distinctions

- 2014 German Skin Cancer Award of the German Skin Cancer Foundation
- 2009 Steigleder Award of the Working Group for Dermatopathology
- 2006 Translational Research Award of the (ADF), Germany
- 1995 - 1997 Research fellowship, German Research Council (DFG)

Invitations to major conferences

Invited presentations for many national and international conferences in the areas of cancer research, cancer immunology, and dermatology. 2023: Plenary speaker at the European Academy of Dermatology meeting on Melanoma immunotherapy; Invited talk at the German Hemato-Oncology Conference; 2024: Invitation to present at the VIB Immuno-Oncology (2nd edition) conference in Antwerp.

Commissions of Trust

- 2018-2023 Board member, European Society of Dermatologic Research
- 2012-2016 Board member, Working Group for Dermatologic Research (ADF), Germany
- 2017- Scientific Advisory Board, Georg-Speyer-Haus, Frankfurt, Germany

Scientific Publication Reviewer (Ad Hoc)

- Nature, Nature Cancer, Nature Communications, Science, Immunity, Cancer Res, J Invest Dermatol

Magdeburg, 30 October 2024

Univ.-Prof. Dr. med. Thomas Tüting