BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Tigelaar, Robert E. M.D.	Professor of Dermatology & Immunobiology
eRA COMMONS USER NAME RTIGELAAR	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Hope College, Holland, MI	B.A.	1964	Pre-Med
University of Michigan Medical School, Ann Arbor, Michigan	M.D.	1968	Medicine

A. Positions and Honors

Positions

Research Assoc., Laboratory of Microbial Immunity, NIAID, NIH, Bethesda, MD	7/70 - 6/74
Senior Investigator, Laboratory of Microbial Immunity, NIAID, NIH, Bethesda, MD	7/74 - 8/76
Acting Instructor in Medicine (Dermatology), U. of Washington Medical School, Seattle, WA	9/77 - 6/78
Assoc. Prof. of Medicine (Dermatology), U. of Washington Medical School, Seattle,WA	7/78 - 8/80
Assoc. Prof. of Dermatology, U. of Texas Southwest Medical Center, Dallas, TX	9/80 - 8/89
Prof. of Dermatology, University of Texas Southwest Medical Center, Dallas, TX	9/89 - 7/90
Prof. of Dermatology & Immunobiology, Yale University School of Medicine, New Haven, CT	7/90 – present
Director, Yale Skin Diseases Research Core Center, Yale School of Med., New Haven, CT	9/92 – present
Co-Director, Yale SPORE in Skin Cancer, Yale School of Med., New Haven CT	7/06 – present

Residency Training:

Dermatology Residency, University of Washington, Seattle, WA	7/76 - 7/79

Appointments:

NIAMS Special Grants Review Committee	7/87 – 6/90
Board of Directors, Society of Investigative Dermatology	7/98 – 6/03
Section Editor, Journal of Investigative Dermatology	7/97 – 6/02
Associate Editor, Journal of Investigative Dermatology	7/02 – 6/07
Board of Scientific Counselors for Clinical Sciences & Epidemiology, NCI, NIH	8/08 – 7/13

B. Selected peer-reviewed publications (from 103)

1. Boyden LM, Lewis J, Barbee S, Bas A,Girardi M, Hayday AC, Tigelaar RE, Lifton RP. Skint1, the prototype of a newly identified immunoglobulin superfamily gene cluster, positively selects epidermal γδ T cells. *Nature Genet*ics 40(5):656-62, 2008
2. Roberts SJ, Ng BY, Filler RB, Lewis J, Glusac EJ, Hayday AC, Tigelaar RE, Girardi M. Characterizing tumor-promoting T cells in chemically induced cutaneous carcinogenesis. *Proc Natl Acad Sci U S A.* 104(16):6770-5, 2007.
3. Lewis JM, Girardi M, Roberts SJ, Barbee S, Hayday AC, Tigelaar RE. Selection of the cutaneous intra-epithelial γδ T cell repertoire is established by a thymic stromal determinant. *Nat Immunol.* 7(8): 843-850, 2006.
4. Girardi M, Lewis JM, Filler RB, Hayday AC, Tigelaar RE. Environmentally responsive and reversible regulation of epidermal barrier function by γδT cells*. J Invest Dermatol.* 126:808-14, 2006.
5. Oppenheim DE, Roberts SJ, Clarke SL, Filler R, Lewis JM, Tigelaar RE, Girardi M, Hayday AC. Sustained localized expression of ligand for the activating NKG2D receptor impairs natural cytotoxicity in vivo and reduces tumor immunosurveillance. *Nat Immunol*. 6(9):928-37, 2005.

6. Pennington DJ, Vermijlen D, Wise EL, Clarke SL, Tigelaar RE, Hayday AC. The integration of conventional and unconventional T cells that characterizes cell-mediated responses. *Adv Immunol*. 87:27-59, 2005.
7. Berger C, Tigelaar R, Cohen J, Mariwalla K, Trinh J, Wang N, Edelson RL. Cutaneous T Cell Lymphoma: malignant proliferation of T-regulatory cells. *Blood* 105(4): 1640-47. 2005.
8. Girardi M, Oppenheim DE, Glusac EJ, Filler R, Balmain A, Tigelaar R and Hayday AC. Characterizing the protective component of the αβ T cell response to transplantable squamous cell carcinoma. *J Invest Dermatol*, 122:699-706, 2004
9. Roark CL, Aydintug MK, Lewis J, Yin X, Lahn M, Hahn YS, Born WK, Tigelaar RE, O'Brien RL.Subset-specific activation among Vγ6/Vδ1+ γδ T cells elicited by inflammation. *J Leukoc Biol.* 75(1): 68-75, 2004.
10. Ramsburg E, Tigelaar R, Craft J and Hayday A. Age-dependent requirements for γδ T cells in the primary but not secondary protective immune response against an intestinal parasite. *J Exp Med* 198(9):1-13,2003.
11. Pennington DJ, Silva-Santos B, Shires J, Theodoridis E, Pollitt C, Wise EL, Tigelaar RE, Owen MJ, Hayday AC. The inter-relatedness and interdependence of mouse T cell receptor γδ (+) and αβ (+) cells. *Nat Immunol.* 4(10): 991-8, 2003.
12. Girardi M, Glusac E, Filler RB, Roberts SJ, Propperova I, Lewis J, Tigelaar RE, Hayday AC. The Distinct Contributions of Murine T Cell Receptor TCRγδ+ and TCRαβ+ T Cells to Different Stages of Chemically Induced Skin Cancer. *J Exp Med* 1;198(5):747-755, 2003.
13. Hayday A, Tigelaar R. Regulatory Lymphocytes: Immunoregulation in the tissues by γδ T cells. Nat Rev Immunol. 3(3):233-42, 2003.
14. Laky K, Lewis JM, Tigelaar RE, Puddington L. Distinct requirements for IL-7 in development of TCR γδ cells during fetal and adult life. *J Immunol*. 170(8):4087-94, 2003.
15. Herrick C, Lan X, McKenzie A, Tigelaar R, Bottomly K. IL-13 is necessary, not simply sufficient for epicutaneously induced Th2 responses to soluble protein antigen. *J Immunol.* 170:2488-95, 2003
16. Girardi M, Sherling MA, Filler, RB, Shires J, Theodoridis E, Hayday AC, Tigelaar RE. Anti-inflammatory effects in the skin of thymosin- 4 splice variants. *Immunology*, 109:1-7, 2003.
17. Laky K, Lewis JM, Tigelaar RE, Puddington L. Distinct Requirements for IL-7 in Development of TCRγδ Cells During Fetal and Adult Life. *J Immunol*. 70:4087-94, 2003.
18. Girardi M, Glusac E, Lewis J, Filler R, Hayday AC, Tigelaar RE. Resident skin-specific γδ T cells provide local, non-redundant regulation of cutaneous inflammation., *J Exp Med,* 195: 855-867, 2002 .
19. Leachman SA, Shylankevich M, Slade MD, Levine D, Sundaram RK, Bryan M, Zelterman D, Tigelaar RE, Brandsma JL. Ubiquitin-fused and/or multiple early genes from CRPV as DNA vaccines. *J Virol*. 76(15):7616-24, 2002.
20. Girardi M, Oppenheim D, Lewis J, Filler R, Tigelaar RE, Hayday AC. The regulation of squamous cell carcinoma development by γδ T cells, *Science*. 294:605-609, 2001.
21. Berger C. Xu A. Hanlon D. Lee C. Schechner J. Glusac E. Christensen I. Snyder E. Holloway V. Tigelaar R. Edelson R. Induction of human tumor-loaded dendritic cells. *Int J Cancer.* 91:438-447, 2001.
22. Hara H. Kishihara K. Matsuzaki G. Takimoto H. Tsukiyama T. Tigelaar RE. Nomoto K. Development of dendritic epidermal T cells with a skewed diversity of γδ TCRs in V∂1-deficient mice. *J. Immunol.* 165(7):3695-705, 2000
23. Leachman SA, Tigelaar RE, Shylankevich M, Slade MD, Irwin M, Chang E, Wu TC, XIAO W, Pazhani S, Zelterman D, Brandsma J. GM-CSF priming plus papillomavirus E6 DNA vaccination: Effects on papilloma formation and regression in the CRPV-rabbit model. *J Virol.* 74(18):8700-8, 2000
24. Herrick CA, MacLeod H, Glusac E, Tigelaar RE, Bottomly K. Th2 responses induced by epicutaneous or inhalational protein exposure are differentially dependent on IL-4. *J Clin Invest*, 105 (6), 765-775, 2000.
25. Laky K, Lefrancois L, Lingenheld EG, Ishikawa H, Lewis JM, Olson S, Suzuki K, Tigelaar RE, Puddington L. Enterocyte Expression of IL-7 Induces Development of γδ T Cells and Peyer's Patches. *J Exp Med*, 191(9): 1569-80, 2000.
26. Mallick-Wood CA, Lewis JM, Richie LI, Rosewell I, Owen MJ, Tigelaar RE, Hayday AC: Epidermal γδ T cells show conservation of TCR conformation when the primary Vγ gene usage is disrupted. *Science,* 1998, 279, 1729-33.
27. Sundaram P, Tigelaar RE, Xiao W, Brandsma JL: Intracutaneous vaccination of rabbits with the E6 gene of CRPV provides partial protection against virus challenge. *Vaccine,* 16(6), 613-623, 1998.
28. Mallick-Wood CA, Pao W, Cheng AM, Lewis JM, Kulkarni S, Bolen JB, Rowley B, Tigelaar RE, Pawson, T, Hayday AC: Disruption of epithelial γδ T cell repertoires by mutation of the *Syk* tyrosine kinase. *Proc Natl Acad Sci USA* 93:9704-9, 1996.
29. Longley J, Ding T-G, Levin D, Lewis J, Edelson R, Tigelaar R and Flavell R: Regulation of transgenic class II major histocompatibility genes in murine Langerhans cells. *J Invest Dermatol*, 104:329-34, 1995.

30. Tigelaar RE and Lewis JM: The immunobiology of mouse dendritic epidermal T cells: A decade later, some answers, but still more questions. *J Invest Dermatol* 105:43S-49S, 1995.
31. Reardon CL, Heyborne K, Tsuji M, Zavala F, Tigelaar RE, O'Brien RL and Born WK: Murine epidermal Vγ5/Vδ1-TCR$^+$ T cells respond to B cell lines and LPS. *J Invest Dermatol* 105:58S-61S, 1995.
32. Girardi M and Tigelaar RE: Specific suppression of lupus-like chronic graft-versus-host disease using extracorporeal photochemical attenuation of effector lymphocytes. *J Invest Dermatol* 104:177-182, 1995.
33. Simon JC, Tigelaar RE, Bergstresser PR, Edelbaum, D, Cruz PD Jr: UVB radiation converts Langerhans cells from immunogenic to tolerogenic antigen presenting cells: Induction of specific clonal anergy in CD4$^+$ T helper 1 cells. *J Immunol* 146:485-491, 1991.
34. Gocinski BL and Tigelaar RE: Roles of CD4$^+$ and CD8$^+$ T cells in murine contact sensitivity revealed by in vivo monoclonal antibody depletion. *J Immunol.* 145:4121-4128, 1990.

C. Research Support

Ongoing

P50 CA121974 Halaban (PI) 07/01/06-06/30/11
NIH/NCI
Yale SPORE in Skin Cancer
The Yale SPORE in Skin Cancer program is focused on two skin cancers, basal cell carcinoma (BCC) and melanoma. The goals are to conduct epidemiologic and genetic studies on early onset basal cell carcinoma, establish novel high-throughput prognostic and diagnostic tools for melanomas and introduce novel targeted therapies to treat melanoma.
Role: Co-Principal Investigator

5 P30 AR41942 Tigelaar (PI) 09/30/92-3/31/09
NIH/NIAMS
Yale Skin Diseases Research Core Center
The goal of the YSDRCC is to create an environment capable of greatly amplifying understanding of basic cutaneous biology and of a broad variety of skin diseases.
Role: PI

5 R01 AR049282 Tigelaar (PI) 09/1/03-7/31/09
NIH/NIAMS
Regulation of Cutaneous Inflammation by Local γδ Cells
The striking phenotype of the TCRδ$^{-/-}$ mouse skin, and the capacity to rescue it via adoptive transfer of DETC progenitors offers a powerful experimental system to define the mechanisms by which local T cells regulate the effects of the systemic immune response within the local tissues. This will be pursued in this program of study. These studies will: 1) characterize the nature of inflammatory reactions that can be regulated by local TCR γδ cells; 2) the properties of TCR γδ cells that regulate inflammation; 3) the mechanisms that local cells utilize to regulate inflammation; and 4) the background genes that influence that regulation.
Role: PI

5 RO1 CA102703 Girardi (PI) 7/1/03-4/30/08
NIH/NCI
T Cell Regulation of Cutaneous Malignancy
This five-year award examines the role of T cell subsets in regulating cutaneous malignancy using several models of skin cancer in mice.
Role: Investigator

Completed

None