

Matthew B. Zook, MD, PhD

PROFESSIONAL

- 7/2009 – 11/2011: Assistant Clinical Professor; Director Melanoma Risk Assessment Program
Fox Chase Cancer Center, Dept. of Medical Oncology, Division of Dermatology, Philadelphia, Pa
- 6/2006 – 6/2009: Resident
Department of Dermatology and Cutaneous Biology, Thomas Jefferson University, Philadelphia, PA
- 6/2005-6/2006: Internship
Department of Medicine, Albert Einstein Medical Center, Philadelphia, PA
- 6/1997-6/2005: M.D.
Jefferson Medical College, Thomas Jefferson University, Philadelphia, PA
- 6/1999-8/2003: Ph.D.
College of Graduate Studies, Thomas Jefferson University, Philadelphia, PA
Department: Microbiology and Molecular Virology.
Thesis advisor: Dr. L. Eisenlohr, Professor.
Thesis title: "Immunological Interactions with Products of Recoding: Utility and Significance of the CD8+ T Cell Response to Epitopes Produced by Ribosomal Frameshifting."
- 6/1991-6/1995: B.S., Biology
Eastern Mennonite University, Harrisonburg, VA

AWARDS

- Dr. Alfred W. and Mignon Dubbs Fellowship Fund Recipient, 2003-2005.
- Ruth L. Kirschstein National Research Training Grant Recipient, 2001-2003.
- Measy Foundation Fellowship Recipient, 1999-2001.

RESEARCH EXPERIENCE

2010: Primary Investigator; SHH4812g - A Phase II, Multicenter, Open-Label, Two-Cohort Trial Evaluating the Efficacy and Safety of GDC-0449 in Operable Basal Cell Carcinoma (BCC)

2007: Primary Investigator - An Open Label Seven Month Study to Evaluate the Safety and Efficacy of Nitrogen Mustard (NM) 0.04% Ointment Formulation in Patients with Stage I or IIA Mycosis Fungoides (MF) Who Have Completed an Initial 12 Month Treatment with Nitrogen Mustard 0.02% Ointment.

2004 – 2006

Department of Dermatology and Cutaneous Biology.

Dr. R. Ghohestani, advisor.

Earlier work from Dr. Ghohestani's lab has shown that dermal DNA immunization of mice results in apparent antibody - mediated autoimmune pathology mimicking Pemphigus Vulgaris. I have sequenced the endogenous gene from animals used in these experiments to determine if any polymorphisms exist. Currently, I am in the process of delineating the regions of Desmoglein 3 targeted by murine autoantibodies raised in this model.

07/1999 – 08/2003

TJU College of Graduate Studies

Graduate Student, Dr. L. Eisenlohr, advisor.

Thesis title: Immunological interactions with products of recoding: utility and significance of the CD8+ T cell response to epitopes produced by ribosomal frameshifting. Project revolved around the hypothesis that protein species produced via aberrant or alternative translational processes could interact with the immune system in a meaningful way. Specifically, addressed the question of whether the level of activation of CD8+ T cells could be used to quantitate the frequency of these ribosomal events. Conversely, also explored the significance of a T cell response to these species in the broader context of a complete immune response to a pathogen. Highlights include development and characterization of an immune based system capable of characterizing ribosomal recoding events in vivo and demonstration of a specific response to a T cell epitope produced at exceedingly low levels during the course of a viral infection. Findings suggest non-immunodominant epitopes be considered when analyzing immune responses.

PRESENTATIONS

“Necrobiotic Xanthogranuloma.” American Academy of Dermatology Gross and Microscopic Forum, San Antonio, Tx. 2008.

“Aminoglycoside induced readthrough of stop codons; potential applications in E.B.” New York Skin Biology Club; New York, NY. Nov. 2004.

Poster: “Investigating the CD8+ T cell response to alternative translational products.” American Association of Immunologists annual meeting; Denver, CO, 2003.

Poster: “Investigating the CD8+ T cell response to alternative translational products.” Sigma Xi, Thomas Jefferson University, Philadelphia, PA, 2002.

Poster: “Use of CD8+ T cells to study stop suppression.” Molecular Aspects of Viral Immunity, Keystone Symposia, Keystone, CO, 2001.

Poster: “Aminoglycoside induction of stop codon suppression.” Sigma Xi, Thomas Jefferson University, Philadelphia, PA, 1999.

“Morphometric post natal development of the mouse seminal vesicle.” Virginia Academy of Science, Harrisonburg, VA, 1994.

PUBLICATIONS

- Cutaneous Metastases. Zook MB, Wu H, Lessin SL. In *Dermatology*, ed. J Bologna. 3rd edition. In press.
- Skin Cancer and Other Health Effects of Indoor Tanning. Zook MB, Perlis C, Lessin SL. For Heckman C, Manne S, eds. In press.
- Granuloma Annulare. Zook MB. In *CDS Dermatology*, Heymann W, et al, eds. In press.
- Epitopes derived by incidental translational frameshifting give rise to a protective CTL response. Zook MB, Howard MT, Sinnathamby G, Atkins JF, Eisenlohr LC. *J Immunol.* 2006 Jun 1; 176(11):6928-6934. Evaluated in Faculty of 1000: Faculty of 1000 Biology: evaluations for Zook MB et al *J Immunol* 2006 Jun 1 176 (11) :6928-34 <http://www.f1000biology.com/article/id/1033659/evaluation>.
- A splice variant of the transcript for guanylyl cyclase C is expressed in human colon and colorectal cancer cells. Pearlman JM, Praver SP, Barber MT, Parkinson SJ, Schulz S, Park J, Zook M, Waldman SA. *Dig Dis Sci.* 2000 Feb;45(2):298-305.

WORK EXPERIENCE

1995-1997 Merck and Co., manufacturing division, Elkton, VA
Technical Operations

Projects: -Optimization of fermentation process for Recombivax production. Optimized small scale fermentation process for assessing vaccine yield. Made recommendation on purchasing of raw materials.
-Bioremediation potential for soil and groundwater. Assisted in collection and analysis of soil samples for degradation of solvent contaminants.

MEMBERSHIPS/COMMITTEE INVOLVEMENT

American Medical Association. 2005 - present
The Society for Investigative Dermatology. 2005 - present
Thomas Jefferson University Library Committee. 2003-2004
College of Graduate Studies student council MD/PhD liaison. 2002-2003
Thomas Jefferson University Animal Resources and Usage Committee. 1998-1999