

Curriculum Vitae

Jeffrey C. Nolz

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Education

- **B.S. in Biological Sciences (Highest Honors)**
Majors: Biology, Chemistry, Microbiology
South Dakota State University-*May 2003*
- **Ph.D. in Biomedical Sciences (Immunology)**
Mayo Clinic College of Medicine-*November 2007*

Professional Experience

- 2008-Present **Postdoctoral Research Fellow**
Laboratory of John T. Harty
Department of Microbiology, University of Iowa
- 2003-2007 **Graduate Student**
Laboratory of Daniel D. Billadeau
Department of Immunology, Mayo Clinic College of Medicine
Thesis: "Characterizing the Multiple Functions of the WAVE2 Complex
During T Cell Activation"
- 2002-2003 **Undergraduate Research Assistant**
Laboratory of Ronald Utecht
Department of Chemistry, South Dakota State University
- 2002 **Research Experience for Undergraduates**
Sponsored by the National Science Foundation
Department of Biochemistry, University of South Dakota
Laboratory of Gary D. Small
Project: "The Role of Phosphorylation in Light-Induced Degradation of
CPH Proteins in Chlamydomonas"
- 2000-2001 **Teaching Assistant**
South Dakota State University, Department of Biology/Microbiology
Instructed Labs for Zool 221 (Human Anatomy)

Professional Society Memberships

2012-Present **The American Association of Immunologists**

Publications

(Reverse Chronological Order)

Nolz JC, Harty JT

Inflammatory IL-15 regulates memory CD8⁺ T cell O-glycan synthesis and trafficking.
Under Revision, Journal of Clinical Investigation

Nolz JC, Harty JT

One bug or another: promiscuous T cells form lifelong memory.
Immunity. 2013. Feb 21;38(2):207-8. Preview.

Richer MJ, **Nolz JC**, Harty JT.

Pathogen-specific inflammatory milieus tune the antigen sensitivity of CD8⁺ T cells by enhancing T cell receptor signaling.
Immunity. 2013 Jan 24;38(1):140-52

Nolz JC, Rai D, Badovinac VP, Harty JT.

Division-linked generation of death-intermediates regulates the numerical stability of memory CD8 T cells.
Proc Natl Acad Sci U S A. 2012 Apr;109(16):6199-204

Nolz JC, Starbeck-Miller GR, Harty JT.

Naïve, effector, and memory CD8 T cell trafficking: parallels and distinctions.
Immunotherapy. 2011 Oct;3(10):1223-33. Review.

Nolz JC, Harty JT.

Strategies and implications for prime-boost vaccination to generate memory CD8 T cells.
Adv Exp Med Biol. 2011;780:69-83. Review.

Butler NS*, **Nolz JC***, Harty JT

**These Authors Contributed Equally*

Immunologic considerations for generating memory CD8 T cells through vaccination.
Cell Microbiol. 2011 Jul;13(7):925-33. Review.

Nolz JC, Harty JT.

Protective capacity of memory CD8⁺ T cells is dictated by antigen exposure history and nature of the infection.
Immunity. 2011 May 27;34(5):781-93.

Nolz JC, Nacusi LP, Segovis CM, Medeiros RB, Mitchell JS, Shimizu Y, Billadeau DD.
The WAVE2 complex regulates T cell receptor signaling to integrins via Abl- and CrkL-C3G-mediated activation of Rap1.
J Cell Biol. 2008 Sep 22;182(6):1231-44.

Nolz JC, Medeiros RB, Mitchell JS, Zhu P, Freedman BD, Shimizu Y, Billadeau DD.
WAVE2 regulates high-affinity integrin binding by recruiting vinculin and talin to the immunological synapse.
Mol Cell Biol. 2007 Sep;27(17):5986-6000.

Nolz JC, Fernandez-Zapico ME, Billadeau DD.
TCR/CD28-stimulated actin dynamics are required for NFAT1-mediated transcription of c-rel leading to CD28 response element activation.
J Immunol. 2007 Jul 15;179(2):1104-12.

Billadeau DD, **Nolz JC**, Gomez TS.
Regulation of T-cell activation by the cytoskeleton.
Nat Rev Immunol. 2007 Feb;7(2):131-43. Review.

Gomez TS, McCarney SD, Carrizosa E, Labno CM, Comiskey EO, **Nolz JC**, Zhu P, Freedman BD, Clark MR, Rawlings DJ, Billadeau DD, Burkhardt JK.
HS1 functions as an essential actin-regulatory adaptor protein at the immune synapse.
Immunity. 2006 Jun;24(6):741-52.

Nolz JC, Gomez TS, Zhu P, Li S, Medeiros RB, Shimizu Y, Burkhardt JK, Freedman BD, Billadeau DD.
The WAVE2 complex regulates actin cytoskeletal reorganization and CRAC-mediated calcium entry during T cell activation.
Curr Biol. 2006 Jan 10;16(1):24-34.

Nolz JC, Gomez TS, Billadeau DD.
The Ezh2 methyltransferase complex: actin up in the cytosol.
Trends Cell Biol. 2005 Oct;15(10):514-7.

Nolz JC, Tschumper RC, Pittner BT, Darce JR, Kay NE, Jelinek DF.
ZAP-70 is expressed by a subset of normal human B-lymphocytes displaying an activated phenotype.
Leukemia. 2005 Jun;19(6):1018-24.

Support

Pending

1K22AI102981-01A1

NIH/NIAID--\$250,000 Direct Costs

Regulation of Memory CD8 T cell Trafficking to Inflamed Tissues

Priority Score = 20. (Fundable Priority Score, Notification of Successful Phase I Completion)

Awards and Honors

2007-2008	Appointee, NIH T32-AI07425 Training Grant—Immunology Mayo Clinic College of Medicine
2008-2009	Appointee, NIH T32-AI07343 Training Grant—Infectious Diseases University of Iowa
2009-2012	Career Development Award (Fellow) (\$165,000, Salary Support Only) <i>Leukemia and Lymphoma Society</i>
2010	Future of Science Fund Scholarship Keystone Symposia <i>Viral Immunity</i>
2011	Future of Science Fund Scholarship Keystone Symposia <i>New Frontiers at the Interface of Immunity and Glycobiology</i>
2012-Present	Appointee, NIH T32-AI07260 Training Grant—Immunology University of Iowa
2013	AAI Trainee Abstract Travel Award

Oral Presentations at Scientific Meetings

- **96th Annual Meeting of The American Association of Immunologists** (*May 2009*)
Nolz JC and Harty JT.
‘Multiple Antigen Encounters Decrease Memory CD8 T Cell-Mediated Protection Against Chronic Viral Infection’ [Poster/Invited Oral Presenter]
- **Keystone Symposia—Viral Immunity** (*March 2010*)
Nolz JC and Harty JT.
‘Multiple Antigen Encounters Decrease the Protective Capacity of the Ensuing Memory CD8 T Cell Population Against Chronic LCMV Infection’ [Poster/Invited Oral Presenter]
- **Keystone Symposia—New Frontiers at the Interface of Immunity and Glycobiology** (*March 2011*)
Nolz JC and Harty JT.
‘Inflammation is Sufficient to Drive Selectin Ligand Expression on Memory CD8 T cells Resulting in Trafficking to Inflamed Tissues’ [Poster/Invited Oral Presenter]
- **Keystone Symposia—Chemokines and Leukocyte Trafficking in Homeostasis and Inflammation** (*January 2012*)
Nolz JC and Harty JT.

Nolz, Jeffrey C.

‘Dynamic Expression of Selectin Ligands Directs Memory CD8 T cells to Inflamed Tissues Independent of Antigenic Stimulation’ [Poster/Invited Oral Presenter]

- **100th Annual Meeting of the American Association of Immunologists** (*May 2013*)
Nolz JC and Harty JT.
‘Memory CD8 T cells are Programmed to Rapidly Synthesis Core 2 O-glycans for Tissue Specific Trafficking in Response to Inflammatory Cues’ [Poster/Invited Oral Presenter]

Poster Presentations at Scientific Meetings

- **National Conference for Undergraduate Research** (*April 2003*)
Nolz JC and Small GD. ‘The Role of Phosphorylation in Light-Induced Degradation of CPH Proteins in *Chlamydomonas*’
- **Keystone Symposia—Lymphocyte Activation and Signaling** (*Jan 2006*)
Nolz JC, Gomez TS, Zhu P, Shuixing L, Medeiros RB, Shimizu Y, Burkhardt JK, Freedman BD, Billadeau DD. ‘WAVE2 Regulates Actin Cytoskeletal Reorganization and CRAC-Mediated Calcium Entry During T Cell Activation’
- **Autumn Immunology Conference** (*Nov 2006*)
Nolz JC, Medeiros RB, Zhu P, Freedman BD, Shimizu Y, Billadeau DD.
‘WAVE2 Controls TCR-Mediated Integrin Activation Through an Association with ARP2/3 and Vinculin’
- **Autumn Immunology Conference** (*Nov 2007*)
Nolz JC, Nacusi LP, Medeiros RB, Mitchell JS, Shimizu Y, Billadeau DD.
‘Abl Tyrosine Kinase Associates with the WAVE2 Complex to Regulate CrkL/C3G-Mediated Activation of Rap1’

Community Outreach Presentations

- **Leukemia and Lymphoma Society, Iowa Chapter**
‘Booster Immunizations: Strategies and Implications’
March 2012

Courses

- **AAI Advanced Course in Immunology**, August 2004

University Service

- **Chapter Adviser**
Sigma Phi Epsilon Fraternity, Iowa Gamma Chapter
University of Iowa
(2008-Present)

- *Sigma Phi Epsilon, Volunteer of the Year-District 17 (2011)*