

Jenni Punt, VMD, PhD

Department of Biology
Haverford College
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Academic Positions

2007-present *Professor*, Department of Biology, Haverford College
2002-2007 *Associate Professor*, Department of Biology, Haverford College
(*Chair* 2004-2007)
1996-2002 *Assistant Professor*, Department of Biology, Haverford College
2001-present *Adjunct Professor*, Pathology, University of Pennsylvania

Education

1992-1996 *Damon Runyon-Walter Winchell Physician-Scientist Fellowship*
National Cancer Institute, NIH
Dr. Alfred Singer, post-doctoral advisor

1984-1991 VMD, *summa cum laude* (1988), PhD (Immunology, 1991, Dr. Y. Hashimoto)
Veterinary Medical Scientist Training Program (VMSTP) Scholarship
University of Pennsylvania, Philadelphia, PA

1983 A.B., *magna cum laude*
High Honors in Biology (Haverford College)
Bryn Mawr College, Bryn Mawr, PA

Other awards

2007 *Phi Beta Kappa Award for Excellence in Teaching* (Haverford College)
2007 *Students' Association Award* (Haverford College)
2005 *American Association of Immunologists (AAI) Distinguished Service Award*
2003 *Innovation in Teaching Award* (Haverford College)
2002 *Lindback Award for Distinguished Teaching* (Haverford College)
1988 *James Hazlitt Jones Prize in Biochemistry* (School of Veterinary Medicine)
J.B. Lippincott Prize (School of Veterinary Medicine)
1982 *Elizabeth G. Shippen Scholarship for Achievement in Science* (Bryn Mawr)

Pending grant

NSF-RUI #IOS-1157986 April 1, 2012-March 31, 2016 \$633,915
The origin and function of mature Nur77^{low} T cell subpopulations in the thymus (PI)

Current grants

NSF-RUI #MCB-0744570 April 1, 2008-March 31, 2012 \$517,177
The role of PP2A in TCR-mediated cell fate decisions of developing T cells (PI)
NSF-MRI #MRI-0922653 September, 2009-August, 2012 \$1,000,000
Acquisition of molecular and cellular imaging instrumentation (co-PI)
(Rob Fairman, PI; Jenni Punt, Rachel Hoang, Karl Johnson, and Walter Smith co-PI's)

Past grants

NSF-RUI #MCB-0343079 April 1, 2004-March 31, 2008 \$430,000
Differential phosphorylation of Nur77 in immature and mature T cells
NIH-R01 #AICA47833-01 August 1, 2000 – July 31, 2005 \$106,000
Notch and hematopoietic cell fate (Warren Pear, PI; J. Punt co-PI, 10%)
NSF-RUI #MCB-0090921 April 1, 2001-March 31, 2004 \$297,879
Developmental differences in response to T cell receptor stimulation (J. Punt, PI)
NSF-RUI #DBI-0070361 July 1, 2000 – June 30, 2002 \$169,271
RUI: Advanced Microscopy and Manipulation Cluster for Biological and Biophysical Studies. (Walter Smith, PI; J. Punt, co-PI)
NSF-RUI #MCB-9728332 April 1, 1998-March 31, 2001 \$309,140
Why can't CD4+CD8+ thymocytes be stimulated to proliferate? (J. Punt, PI)

Professional activities since 2001

- Member, Executive Committee, Beckman Scholars Program 2006-2010
- Beckman Scholars Program Advisory Panel 2003-04, 2005-06
- Associate Editor, *Journal of Immunology* 2005-2007
- Ad hoc reviewer for *J. Immunol.*, *Immunity*, *Int. Imm.*, *Cell. Imm.*, *PLOS* 1997-present
- Member, AAI (1997-present) and ASH (2010-present)

Activities associated with professional society (AAI)

- Panel participant, AAI Meeting session on Undergraduate Education 2010
- Lecturer for the AAI Introductory Course in Immunology 2002-present
- Member, Committee for the Status of Women, AAI 2004-2007
- Mentor for AAI recipient of a High School teaching fellowship 2004

Review panels:

- Member, NSF Review Panel (Signal Transduction) 2004-present
- NIH Special Study Section (SBIR/STTR), Ad hoc member 1997-2003
- NIA-B Study Section (R03, K01, K08), Ad hoc member 2000-present
- Member, NIH-NIA Site Visit Teams for Program Project Grants 2000 - present
- NIH Special Emphasis Panel 2000, 2002

Invited talks:

- Invited speakers, Women's Council, Haverford College December, 2010
 - Presented research with five senior undergraduates
- Invited panelist, Educational Committee, AAI Conference May, 2010
- Invited speaker, NIH Career Day May, 2009
- Invited speaker, University of PA School of Vet Med March, 2009
- Invited Speaker, University of Minnesota February, 2008
- Speaker, Phi Beta Kappa, Haverford College November, 2007; May, 2006
- Invited Speaker, University of Pennsylvania January, 2006
- Invited Speaker, Villanova University December, 2005
- Invited Seminar (with students), P.H.A.N., Haverford November, 2005
- Invited Speaker, Jefferson University February, 2005
- Invited Speaker, Williams College November, 2004
- Invited speaker, Experimental Immunology Branch, NCI, NIH January, 2004 (& 2001)
- Invited Speaker, UMBC November, 2003
- Invited Speaker, NIH Immunology Retreat January, 2003
- Invited Speaker, Middlebury College April, 2002
- Invited Speaker, St. Joseph's University March, 2002

Activities at other institutions

- Thomas Jefferson University Sigma Xi Research Day Judge 2010, 2011
- Outside reviewer, Randolph Macon College Biology Dept March, 2011
- External reviewer, VMD/PhD program, U. Penn October, 2010
- Thomas Jefferson University Sigma Xi Student Research Day judge 2010-present
- Thesis committee member, Immunology Graduate Group, U. Penn 2002-2009
- Lecturer for graduate level courses in Immunology 2000-2009
U. Penn. and Thomas Jefferson University

Publications

Textbooks and textbook chapters

1. Contracted by Freeman Press to redesign and co-author (with Drs. Judy Owen, Sharon Strafford, and Pat Jones) the new (7th ed) of Kuby's Immunology. Est. publication date January 2013. Currently have completed five chapters, now in editing phase.
2. **Punt, J. A.** and A. Singer. (1995). "T cell development" Chapter 10, In R.R. Rich, T. A. Fleischer, B.D. Schwartz, B.T. Shearer, and W. Strober (eds.): Clinical Immunology: Principles and Practice.

Peer-reviewed Publications (undergraduate authors are underlined)

1. Hanna RN, Shaked I, Hubbeling HG, **Punt JA**, Wu R, Herrley E, Zaugg C, Pei H, Geissmann F, Ley K, and Hedrick CC. (in press, *Circ. Research*) [NR4A1 \(Nur77\) Deletion Polarizes Macrophages Toward an Inflammatory Phenotype and Increases Atherosclerosis](#). PMID: 22194622
2. Cunningham, N*, Hinchcliff, E.*, Beck, T., Kutyaev, V., Reid, W., and **J. A. Punt**. (2011) GSK3 mediated instability of tubulin polymers is responsible for the failure of CD4+CD8+ thymocytes to polarize their MTOC in response to TCR stimulation. *Int. Immunology* 23:693-700. ***shared first-authorship**. DOI: 10.1093/intimm/dxr076
3. Hanna, R. N., Carlin, L., Hubbeling, H. G., Nackiewicz, D., Green, A. M. **Punt, J.A.**, Geissmann, F., and Hedrick, C.C. (2011) The transcription factor NR4A1 (Nur77) controls bone marrow differentiation and the survival of Ly6C(-) monocytes. *Nature Immunology* 12:778-785. DOI: 10.1038/ni.2063.
4. Moran, A.E., Holzapfel, K. L., Cunningham, N.R., Maltzman, J.S., **Punt, J.** and Hogquist, K.A.*. (2011) T cell receptor signal strength in Treg and iNKT cell development as revealed by a novel fluorescent reporter mouse. *Journal of Experimental Medicine* 208:1279-1289. DOI: 10.1084/jem.20110308.
5. S.G. Emerson, P. Meneely, **J.A. Punt** (2009) "Engaging undergraduate students in research: Sustaining our nation's pipeline of future biomedical investigators." Chapter in *The Vanishing Physician-Scientist?* Andy Schafer, ed., ILR: Cornell Press.
6. Cunningham, N.*, Artim, S.*, Sellars, M.*, Fornadel, C.*, Edmondson, S., Scott, G., Albino, F., Mathur, A., and **J.A. Punt**. (2006) Immature CD4+CD8+ thymocytes and mature T cells regulate Nur77 distinctly in response to TCR stimulation. *J. Immunol.* 177: 6660-6666. ***shared first-authorship**.
7. Dumortier, A., Jeannet, R., Kirstetter, P. Kleinmann, E., Sellars, M., Dos Santos, N.R., Thibault, C., Barths, J., Ghysdael, J., **Punt, J.A.**, Kastner, P., and S. Chan. (2006) Notch activation is an early and critical event during T-Cell leukemogenesis in Ikaros-deficient mice. *Mol. Cell Biol.* 26: 209-220.
8. Cho, H.J.*, Edmondson, S.G.*, Miller, A.D.*, Sellars, M.*, Alexander, S.T., Somersan, S., and **J. A. Punt**. (2003) Cutting edge: identification of the targets of clonal deletion in an unmanipulated thymus. *J Immunol.* 170:10-13. ***shared first-authorship**
9. Allman D, **Punt J.A.**, Izon D.J., Aster J.C., and W.S. Pear. (2002) An invitation to T and more: Notch signaling in lymphopoiesis. *Cell* 109 Suppl: S1-11.
10. Izon D.J., **Punt J.A.**, and W. S. Pear. (2002) Deciphering the role of Notch signaling in lymphopoiesis. *Curr, Opin. Immunol.* 14: 192-199.
11. Myung, P. S., Derimanov, G.S., Jordan, M. S., **Punt, J.A.**, Liu, Q-H., Judd, B. A., Meyers, E.E., Sigmund, C. D., Freedman, B. D., and G. A. Koretzky. (2001) Differential requirement for SLP-76 domains in T cell development and function. *Immunity* 15:1011-1026
12. Allman, D. M., Karnell, F. G., **Punt, J. A.**, Bakkour, S., Xu, L., Myung, P., Koretzky, G. A., Pui, J.C. Aster, J. C. and W.S. Pear. (2001) Separation of Notch1 promoted lineage commitment and expansion/transformation in developing T cells. *J. Exp. Med.* 194: 99-106.
13. Izon, D*., **Punt, J.***, Karnell, F., Xu, L-W, and W. Pear. Notch1 regulates maturation of CD4+ and CD8+ thymocytes by modulating TCR signal strength. (2001). *Immunity* 14: 253-264. ***shared first authorship**

14. Ebert, P.J.R., Baker, J. F. and **J. A. Punt**. (2000). Immature CD4+CD8+ do not polarize lipid rafts in response to TCR-mediated costimulation. *J. Immunol* 165:5435-5442.
15. Freedman B.D., Liu Q.-H., Somersan S., Kotlikoff, M.I., and **J.A. Punt**. (1999). Receptor avidity and costimulation specify the intracellular Ca²⁺ signaling pattern in CD4+CD8+ thymocytes. *J. Exp. Med.* 190: 943-952.
16. Tomayko, M.M., Bolcavage, J., **Punt, J.**, Allman, D., Levy, S. L., and M.P. Cancro. (1999). Expression of the Bcl-2 family member A1 is developmentally regulated in T cells. *Int. Immunol.* 11: 1753-1761.
17. **Bishop, C.D.V.A., Jost, A., Crane, E., and J. A. Punt**. (1999). Assessing apoptosis of developing T cells by flow cytometry Ch.10, pp117-131 in *Methods in Molecular Biology: T cell protocols* (Kearse, K. ed.)
18. Bhandoola, A., Cibotti, R., **Punt, J.A.**, Granger, L., Adams, A.J., Sharrow, S.O., and A. Singer. (1999). Positive selection as a developmental progression initiated by alpha beta TCR signals that fix TCR specificity prior to lineage commitment. *Immunity* 10:301-311.
19. Dave, VP., Keefe, R., Berger, MA, Krbal, K, **Punt, J.A.**, Wiest, D. L., Alarcon, B., and D. J. Kappes. (1998) Altered functional responsiveness of thymocyte subsets from CD3 δ -deficient mice to TCR-CD3 engagement. *Int. Immunol.* 10: 1481-1490.
20. Mackall, C. L., **Punt, J. A.**, Morgan, P., Farr, A. G., and R. E. Gress. (1998). Thymic function in young/old chimeras: substantial thymic T cell regenerative capacity despite irreversible age-associated thymic involution. *Eur. J. Immunol.* 28: 1886-1893.
21. **Punt, J. A.**, W. Havran, R. Abe, A. Sarin, and A. Singer. (1997). T cell receptor (TCR)-induced death of immature CD4+CD8+ thymocytes by two distinct mechanisms differing in their requirement for CD28 costimulation: implications for negative selection in the thymus. *J. Exp. Med.* 186: 1911-1922.
22. Cibotti, R., **J. A. Punt**, K. S. Dash, S. O. Sharrow, and A. Singer. (1997). Surface molecules that drive T cell differentiation in vitro in the absence of thymic epithelium and in the absence of lineage specific signals. *Immunity* 6: 245-255.
23. Wu, W., **J. A. Punt**, L. Granger, S. O. Sharrow, and K. P. Kearse (1997). Developmentally regulated expression of peanut agglutinin (PNA)-specific glycans on murine thymocytes. *Glycobiology* 7: 349-356.
24. Wiest, D. L., A. Bhandoola, **J. Punt**, G. Kreibich, D. McKean, and A. Singer. (1997). Incomplete endoplasmic reticulum (ER) retention in immature thymocytes as revealed by surface expression of "ER-resident" molecular chaperones. *Proc. Natl. Acad. Sci. U.S.A.* 94: 1884-1889.
25. **Punt, J. A.**, H. Suzuki, L. C. Granger, S.O. Sharrow, and A. Singer. (1996). Lineage commitment in the thymus: Only the most differentiated (TCR^{hi}bcl-2^{hi}) subset of CD4⁺CD8⁺ thymocytes has selectively terminated CD4 or CD8 synthesis. *J.Exp. Med.*, 184: 2091-2099.
26. Wu, W., P. H. Harley, **J. A. Punt**, S. O. Sharrow, and K. P. Kearse. (1996). Identification of CD8 as peanut agglutinin (PNA) receptor molecule on immature thymocytes. *J. Exp. Med.* 184:759-764.
27. Suzuki, H., **J. Punt**, L.C. Granger, and A. Singer. (1995). Markedly asymmetric requirements for commitment to the CD4⁺ vs. CD8⁺ T cell lineage. *Immunity*, 2:413-425.
28. Kearse, K. P., Y. Takahama, **J. A. Punt**, S.O. Sharrow, and A. Singer. (1995). Early molecular events induced by TCR signaling in immature CD4⁺CD8⁺ thymocytes. *J. Exp. Med.* 181: 193-202.
29. Freedman B. D., B. K. Fleischmann, **J. A. Punt**, G. Gaulton, Y. Hashimoto, and M. I. Kotlikoff. (1995). Identification of Kv1.1 expression by murine CD4-CD8- thymocytes. A role for voltage-dependent K⁺ channels in murine thymocyte development. *J. Biol. Chem.* 270:22406-22411.
30. **Punt, J. A.**, B.A. Osborne, Y. Takahama, S.O. Sharrow, and A. Singer. (1994). Negative selection of CD4⁺CD8⁺ thymocytes by T cell receptor-induced apoptosis requires a costimulatory signal that can be provided by CD28. *J. Exp. Med.* 179: 709-713.
31. **Punt, J. A.**, J.R. Roberts, K. P. Kearse, and A. Singer. (1994). Stoichiometry of the T cell antigen receptor complex: Each TCR/CD3 complex contains one TCR α , one TCR β , and two CD3 ϵ chains. *J. Exp. Med.* 180: 587-593.
32. Kuwabara, I., H. Ohno, **J. A. Punt**, Y. Hashimoto, and T. Saito. (1994). Transition from TCR- β dimer to TCR- $\alpha\beta$ expressing cells by introduction of an α -chain in an immature thymocyte cell line. *J. Immunol.* 152:2148-2156.

33. **Punt, J. A.**, M. Hosono, and Y. Hashimoto. (1993). CD4⁺/CD8⁻ thymocytes dominate the fetal thymus treated with a combination of anti-TCR β and anti-CD4 antibodies. *J.Immunol.* 151: 1290.-1302.
34. **Punt, J. A.**, R. T. Kubo, T. Saito, T. H. Finkel, S. Kathiresan, K. J. Blank, and Y. Hashimoto. (1991). Surface expression of a T cell receptor β (TCR- β) chain in the absence of TCR- α , - δ , and - γ proteins. *J. Exp. Med.* 174: 775-783.
35. Kipps, T. K., P. Parham, **J. Punt**, L. A. Herzenberg. (1985). Importance of immunoglobulin isotype in human antibody-dependent, cell-mediated cytotoxicity directed by murine monoclonal antibodies. *J. Exp. Med.*161:1-17.

Trends in Immunology Commentaries:

- Punt, J.A. and Owen, J.A. (2002) Choose your partner and aggregate *Trends in Immunology* 23: 520.
 Punt, J.A. and Owen, J.A. (2001) T-cell SLAPstick *Trends in Immunology* 22: 596.
 Punt, J. A. and Owen, J. A. (2001) A Tale of T cell Tubulin. *Trends in Immunology* 22: 418-419.
 Owen, J. A. and J. A. Punt (2001) The flip side of Fas. *Trends in Immunology.* 22: 241.
 Owen, J. A., and J. A. Punt. (2001) Double break-point in the match for the mutator. *Trends in Immunology.* 22: 69.
 Punt, J. A. (2000) Life rafts for thymocytes. *Immunology Today.* 21: 530.

Outreach activities since 2004:

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|---|--------------|
| Faculty sponsor/advisor of Anatomy and Physiology workshops
(Haverford/Vet School collaboration) | 2010-present |
| Faculty Conversations with First Year students | 2008-present |
| Haverford Summer Science Institute | 2006-present |
| Cascade program
(HHMI sponsored mentorship of high school student in summer lab) | 2006 |
| Middle School Girls Science Workshop, Swarthmore | Spring, 2006 |
| Workshop for Philadelphia High School teachers: "HIV and the Black Plague" | 2004, 2005 |

College-wide committees and responsibilities (major):

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| Natural Science Faculty Rep, Plagiarism Education Committee | 2011-present |
| Chair, Faculty Admissions Committee | 2010-2011 |
| Chair, Institutional Biosafety and Review Committee | 2010-2011 |
| Chair, Middle States Reaccreditation Working Group (Faculty and Curriculum) | 2008-2010 |
| Member, Faculty Committee on Academic Enrichment | 2006-2007 |
| Chair, Biology Department | 2004-2007 |
| Member, Academic Council (Faculty Representative to the Board) | 2005-2007 |
| Member, College Planning Committee | 2006-2007 |
| Member, Ad Hoc Search Committees
1997-98 (Chemistry), 1998-99 (Biology), 2001-02 (Biology), 2004-05 (Biology), 2010 (Biology) | |
| Beckman Scholar Program coordinator | 2001-2004 |
| Member, Educational Policy Committee | 2002-2003 |
| Chair, Radiation Safety Committee | 2000-2006 |
| Member, Distinguished Visitors Committee | 2001-2002 |
| Member, IACUC | 2000-2001, 2006-2007, 2008-present |
| Member, Biochemistry/Biophysics Concentration Committee | 1997-present |
| Pre-vet advisor | 1996-present |

Other College related public events:

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| Chaired Class of '81 Alumni Panel on Biotechnology and Ethics | Summer, 2011 |
| Honor Code Panel/Orientation – faculty invitee | ~Every other year |
| Faculty Marshal (Commencement) | 2002, 2011 |
| Alumni weekend seminar
"Educating Cells, Educating Students: Stem Cells and T cells in the laboratory and beyond" | 2009, 2010 |

