DAVID N. BALDWIN, Ph.D.

David Baldwin
6011 2nd Ave. NW
Seattle, 98107

phone: (206) 618-4539
email: dbaldwin@shoreline.edu
baldy@baldysgardens.com

EDUCATION

Fred Hutchinson Cancer Research Center, Senior Postdoctoral Fellow 2002-2006.
Stanford University, Department of Biochemistry, Postdoctoral Fellow 2000-2002.
University of Washington, and F.H.C.R.C., Seattle: Ph.D., Microbiology, 1994-99.
University of California, Berkeley: B.A., Genetics, French minor, 1984-88.

TEACHING EXPERIENCE

Affiliate Associate Professor. University of Washington, departments of Bioengineering and Pharmacy. 2010-present.
Developed and taught: Drug Discovery and Design.

Adjunct Biology Professor. Shoreline Community College, 2009-present
Classes taught: Cell and Molecular Biology for majors, Microbiology for majors, Biology and Society.

Developed and taught: Sustainable Gardening and Urban Horticulture.

EDUCATIONAL OUTREACH

Science Education Partnership (Fred Hutchinson Cancer Research Center), 1996-1998. Worked with high school teachers and students to develop curriculum related to basic molecular biology techniques such as gel electrophoresis and analysis of DNA.

Undergraduate Mentor, 1996-1998 and 2000-2001. Worked summers and sometimes through the year with college students interested in learning basic science methods related to microbiology. During the postdoctoral period, worked with an international student from Puerto Rico who eventually earned her Ph.D. at Stanford.

Judge, Intel Science and Engineering Competition for high school students, 2001 (San Jose, CA) and 2005 (Phoenix, AZ). Took vacation to work as a judge specializing in microbiology/biology, evaluating presentations on research projects.

SMALL BUSINESS OWNER

Landscape Design/Build business, Baldy's Gardens (www.baldysgardens.com) 2005-present.
Helped build the Deep Roots Community Garden, Shoreline Community College, a vegetable garden for both teaching the science of gardening, and giving food to the local food bank.

RESEARCH EXPERIENCE

Senior Postdoctoral Fellow Oct. 2002-2006.
Division of Human Biology, Fred Hutchinson Cancer Research Center.
Nina Salama, Ph.D., Principle Investigator.

Using genomic bacterial microarrays for *Helicobacter pylori* to study novel mechanisms of virulence in a mouse model of infection and colonization (1,2).

Postdoctoral Fellow Jan. 2000-2002.
Department of Biochemistry, Stanford University
Julie Theriot, Ph.D. Principal Investigator

Used cDNA microarrays of human genes and ESTs to examine the transcriptional response of intestinal epithelial cells to infection by *L. monocytogenes* (3,4).

Doctoral Studies, 1994-1999.
Division of Basic Sciences, Fred Hutchinson Cancer Research Center.
Maxine L. Linial, Ph.D., Principal Investigator

Studied retrovirus assembly in spuma-retroviruses, a predominantly simian virus. Investigated the role of proteolytic processing by the HFV protease for Pol incorporation into HFV particles (5,6). Studied the roles of the major HFV gene products in virus assembly and release (7). Characterized spliced mRNA for the *pol* gene of HFV, helping to define an unique mechanism of Pol expression among retroviruses (8).

Affymax Research Institute, Research Associate, 1990-1994
Ron Barrett, Ph.D., Stephen Yanofsky, Ph.D., and Charles Hart, Ph.D.

Developed and applied combinatorial approaches for rapid drug discovery, targeting forms of interleukin-1 and their receptors (10,15).

DNAX Research Institute, Research Assistant, 1989-90
Takashi Yokota, Ph.D., and Ken-ichi Arai, M.D., Ph.D.

Worked on cloning transcription factors for human interleukin-3 (11,13).

Pasteur Institute, Internship, 1989.
Hugues Bedouelle, Ph.D. and Michel Goldberg, Ph.D.

Studied enzyme thermostability. Created a library of chimeric tyrosyl-tRNA synthetase genes from homologous genes of *E. coli* and *B. stearothermophilus* (12).

University of California, Berkeley. Undergraduate Research, 1988.
Robert Goodenow, Ph.D.

Studied gene conversion in yeast using heterologous MHC genes (14).

PUBLICATIONS

1. **David N. Baldwin**, Shepherd, B., Kraemer, P., Hall, M.K., Sycuro, L.K., Pinto-Santini, D.M., and Nina R. Salama, (2007) Identification of Helicobacter pylori Genes that Contribute to Stomach Colonization. Infection and Immunity, Feb; 75(2):1005-16.

2. **David N. Baldwin** and Nina Salama, (2007) Using Genomic Microarrays to Study Insertional Mutants in Bacteria. Methods in Enzymology, Bacterial Genetics; 421:90-110. Review.

3. **David N. Baldwin**, Vanchinathan, V., Brown, P.O., and Julie A. Theriot, (2003), A Gene Expression Program Reflecting the Innate Immune Response of Cultured Intestinal Epithelial Cells to Infection by Listeria monocytogenes. Genome Biology, **4** (1):R2.

4. Robbins, J.R., **Baldwin, D.N.**, McCallum, S.J.and Julie A. Theriot, (2003), Bacterial Manipulation of the Host Cell Cytoskeleton. In *Cellular Microbiology*, ASM press, Washington, D.C.

5. Wang, G, **Baldwin, D.N.,** Linial, M.L., and Mark J. Mulligan. (1999), Endogenous Virus of BHK-21 Cells Complicates Electron Microscopy Studies of Foamy Virus Maturation. Journal of Virology, **73** (10), letter.

6. **David N. Baldwin** and Maxine L. Linial, (1999), Proteolytic Activity, p4Gag, and the Primer Binding Site are not required for Pol Incorporation into Foamy Virus Particles. Journal of Virology, **73** (8), pp6387-6393.

7. **David N. Baldwin** and Maxine L. Linial, (1998), The Roles of Pol and Env in the Assembly Pathway of Human Foamy Virus, Journal of Virology, **72** (5), pp 3658-3665.

8. Yu S.F., **Baldwin D.N.**, Gwynn S.R., Yendapalli S., and Maxine L. Linial, (1996), Human Foamy Virus Replication: A Pathway Distinct from that of Retroviruses and Hepadnaviruses, Science, **271**, pp1579-1582.

9. Rohn J.R., Moser M.S., Gwynn S.R., **Baldwin D.N.**, and Julie Overbaugh, (1997), Evolution of a Novel, Syncytium-inducing and Cytopathic Feline Leukemia Virus Variant, Journal of Virology, **72** (4), pp 2686-2696.

10. Yanofsky S., **Baldwin D.N.**, Butler J.H., Holden F.R., Jacobs J.W., Balasubramanian P., Chinn J.P., Cwirla S.E., Peters-Bhatt E., Whitehorn E.A., Tate E.H., Akeson A., Bowlin T.L., Dower W.J., and Ron W. Barrett. (1996), High Affinity Type I Interleukin 1 Receptor Antagonists Discovered by Screening Recombinant Peptide Libraries, Proc. Natl. Acad. Sci., **93**, pp7381-7386.

11. Koyano-Nakagawa N., Nishida J., **Baldwin D.**, Arai K., and Takashi Yokota. (1994), Molecular Cloning of a Novel Human cDNA Encoding a Zinc Finger Protein that Binds to the Interleukin-3 Promoter, Journal of Molecular and Cellular Biology, **14** (8), pp5099-5107.

12. Guez-Ivanier V., Hermann M., **Baldwin D.**, and Hugues Bedouelle, (1993), Mapping the Stability Determinants of Bacterial Tyrosyl Transfer RNA Synthetases by an Experimental Evolutionary Approach, Journal of Molecular Biology, **234**, pp209-221.

13. Arai N., Tsuboi A., Iwai Y., Miyatake S., Yokota K., de Waal Malefyt R., Muramatsu M., Matsuda I., Nishida J., **Baldwin D.**, Koyano-Nakagawa N., Hayashida K., Kitamura T., Gorman D., Sato N., Hara T., Shlomai J., Yokota T., Miyajima A., and Ken-ichi Arai, (1990), Regulation of IL-3, IL-4, and GM-CSF Genes and Signal Transduction by Their Receptors, Lymphokine Research, **9** (4), pp551-3.

14. Wheeler C.J., Maloney D., Arbeitman M., **Baldwin D.**, Chan H., Rufer J., Fogel S., and Robert S. Goodenow, (1990), Microgene Conversion in the Evolution of Murine MHC Class I Genes. In *Transgenic Mice and Mutants in MHC Research*, Springer-Verlag, Berlin.

PATENTS

15. Yanofsky, Stephen D., Barrett, Ronald W., **Baldwin, David N.**, Jacobs, Jeff W. (1995) Peptides and Compounds that Bind to the IL-1 Receptor. Affymax Technologies, N.V., Docket No. 16528A-001820. 1019.3