
BIOGRAPHICAL SKETCH

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NAME Paul J. Bertics	POSITION TITLE Professor of Biomolecular Chemistry		
eRA COMMONS USER NAME (credential, e.g., agency login) pbertics			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of California-Los Angeles	B.S.	1978	Biochemistry
University of Wisconsin-Madison	Ph.D.	1984	Physiological Chemistry
University of California-San Diego	Post.-Doc	1984-86	Cell & Mol. Biology

A. Personal Statement

The investigator's research is focused on evaluating the cellular mechanisms associated with hormonal/cytokine regulation of cell growth control and immune function. The investigator has trained over three dozen pre- and postdoctoral students and he has received multiple research awards and grants in biochemistry and cell biology and immunology. His publication record consists of over 125 publications and 4 patents in the areas of cell signaling, endocrinology and the biochemistry.

B. Positions and Honors

1986-1991 Assistant Professor, Department of Physiological Chemistry, University of Wisconsin-Madison.
1991-1996 Associate Professor, Department of Biomolecular Chemistry, University of Wisconsin-Madison.
1996-present Professor, Vice Chair, Department of Biomolecular Chemistry, University of Wisconsin-Madison.
1987-present Member, Cell and Molecular Biology Program, University of Wisconsin-Madison.
1988-present Member, Endocrinology-Reproductive Physiology Program, University of Wisconsin-Madison.
1989-present Member, University of Wisconsin Comprehensive Cancer Center.
1999-present Chair, University of Wisconsin Medical School Admissions
1998-present Chair, University of Wisconsin Medical School Research Committee
2002-present Cell Signaling Program Leader, UW Comprehensive Cancer Center, UW-Madison

ACADEMIC HONORS AND AWARDS

Univ. of California, Los Angeles, Magna cum laude and 'Highest Honors in Biochemistry' (1978)
Shaw Scholar Award (Milwaukee Foundation) (1987)
March of Dimes Basic O'Connor Starter Scholar Research Award (1987)
Eli Lilly Biochemistry Award (1990)
Dorothy and Charles Inbusch Award for Meritorious Research (1990)
University of Wisconsin Medical School Deans Outstanding Teacher Award (1992)
University of Wisconsin Distinguished Teaching Award-Chancellor's Teaching Award (1997)
Hilldale Undergraduate/Faculty Research Fellowship Award - Univ. of Wisconsin (multiple years)
The Kellett Mid-Career Named Professorship Award (2006)
University of Wisconsin Medical School Distinguished Teaching Award (2000, 2008)

SELECTED PROFESSIONAL SERVICE:

NIH Study Section, Cell Biology & Physiol (CBY-2) (Regular Member: 1994-1998, Ad Hoc 2001, 2003)
NIH Study Section, CDF3 (2002); LBPA (2001); LCMJ (2003, 2004, 2009); NIDCR (2006); NIH Specials/Site Visits (2000, 2001, 2004, 2006); NCI IMAT Review Panel (2007, 2008, 2009, 2010)
NCI Training Grant Study Section 2005, 2006 (2)
American Cancer Society Cell Cycle and Growth Control Advisory Panel (Member: 1996-1999)
National VA Oncol Merit Review (1993, 1996, 2001, 2002, 2004, 2005 (Ad Hoc)), Member: 1997-2000)
Editorial Board Member - Endocrinology (1990 - 1993)

Editor for NeuroProtocols - Tyrosine Kinases (1992); Methods in Molecular Biology-EGF (2006)
Section Editor - Journal of Immunology (2008 - 2012)

C. Selected Peer-Reviewed Publications (Selected publications since 2007 co-authored by Dr. Bertics' graduate students or fellows- 21 papers from 2007-early 2010; total 126)

1. Zachary A Pfeiffer ZA, Guerra AN, PhD; Hill LM, Gavala ML, Prabhu U, Aga M, Hall DJ, Bertics PJ (2007) Nucleotide receptor signaling in murine macrophages is linked to reactive oxygen species generation. Free Radical Biol & Med 42, 1506-1516. PMID: PMC1934340
2. Liu LY, Bates ME, Jarjour NN, Busse WW, Bertics PJ, Kelly EAB (2007) Generation of Th1- and Th2-chemokines by human eosinophils: Evidence for a critical role of tumor necrosis factor- α . Journal of Immunology 179: 4840-4848.
3. Bertics PJ, Ozer BH, Wiepz GJ, Guadarrama AG, Abbott NL, Lowe AM, Shusta EV, Agarwal N, Raines RT, Kalia J (2007) Liquid crystal-based analytic technology: Enabling a molecular view of cancer. BIOforum Europe 11, 42-45.
4. Quinchia-Rios BH, Abozeid S, Guerrero M, Bainbridge B, Darveau R, Compton T, Bertics PJ (2008) Down-regulation of EGF receptor-dependent signaling by Porphyromonas gingivalis lipopolysaccharide in life-expanded human gingival fibroblasts. Journal of Periodontal Research 43, 290-304.
5. Lowe AM, Ozer BH, Wiepz GJ, Bertics PJ, Abbott NL (2008) Engineering of PDMS surfaces for use in microsystems for capture and isolation of complex and clinically important proteins such as epidermal growth factor receptor. Lab on a Chip 8, 1357-1364. PMID: PMC282893
6. Gavala ML, Pfeiffer ZA, Bertics PJ (2008) The nucleotide receptor P2RX7 mediates ATP-Induced CREB activation in human and murine monocytic cells. J Leukocyte Biol 84, 1159-1171. PMID: PMC2538603
7. Kelly EAB, Koziol-White CJ, Clay KJ, Liu LY, Bates ME, Bertics PJ, Jarjour NN (2009) Potential contribution of IL-7 to allergen-Induced eosinophilic airway inflammation in asthma. Journal of Immunology 182, 1404-1410. PMID: PMC2851244
8. Bertics PJ, Wiepz GJ (2009) New Developments with Vancomycin-resistant Enterococci: E. faecium-Friend or Foe? J Infect Diseases 200:679-681.
9. Lenertz LY, Gavala ML, Hill LM, Bertics PJ (2009) Cell signaling via the P2X7 nucleotide receptor: Linkage to ROS production, gene transcription and receptor trafficking. Purinergic Signalling 5, 175-187. PMID: PMC2686823
10. Ozer BH, Wiepz GJ, Bertics PJ (2010) Activity and cellular localization of an oncogenic glioblastoma multiforme-associated EGF receptor mutant possessing a duplicated kinase domain. Oncogene 29, 855-864. PMID: PMC2820599
11. Lowe AM, Ozer BH, Bai Y, Bertics PJ, Abbott NL (2010) Design of Surfaces for Liquid Crystal-Based Bioanalytical Systems. ACS Applied Materials & Interfaces 2(3):722-731. PMC Journal - In Process.
12. Puccinelli TJ, Bertics PJ, Masters KS (2010) Regulation of keratinocyte signaling and function via changes in epidermal growth factor presentation. Acta Biomaterialia, in press. PMC Journal - In Process.
13. Bates ME, Sedgwick JB, Zhu Y, Liu L-Y, Heuser RG, Jarjour NN, Kita H, Bertics PJ (2010) Human airway eosinophils respond to chemoattractants with enhanced EDN release, adherence to fibronectin and activation of the Ras/ERK pathway than blood eosinophils. Journal of Immunology, in press. PMC Journal - In Process.
14. Korpi-Steiner NL, Valkenaar SM, Bates ME, Evans MD, Gern JE, Bertics PJ (2010) Human monocytic cells direct the robust release of CXCL10 by bronchial epithelial cells during rhinovirus infection. Clinical & Experimental Allergy, in press. PMC Journal - In Process.
15. Lenertz LY, Wang Z, Guadarrama A, Hill LM, Gavala ML, Bertics PJ (2010) Mutation of Putative N-linked Glycosylation Sites on the Human Nucleotide Receptor P2X7 Reveals a Key Residue Important for Receptor Function. Biochemistry, in press. PMC Journal - In Process.

D. Research Support

Grant Support: ONGOING

1R33CA122892 (PI: Bertics) 06/01/07-05/31/10

NIH/NCI

Molecular Analysis Using Liquid Crystal Technology

This project utilizes liquid crystal technology to assess the expression, activity and mutation of the EGF receptor in lung cancer.

5 R01 CA108467 (PIs: Abbott, Bertics, Raines) 09/03/04-08/31/14

NIH/NCI

Bioengineering Research Partnership: Biomolecular Analysis Using Liquid Crystals

This project is focused on broad enabling issues related to biomolecular analysis of regulatory proteins (such as the EGF receptor) using liquid crystals, including nanofabrication of surfaces with topography, antibody immobilization, methods for quantitative analysis and microfluidics.

1 U19 AI070503 (PI: Bertics (Proj 2), Dir: Gern) 8/01/06-7/31/11

NIH/NIAID

Mechanisms of Rhinovirus-Induced Exacerbations of Asthma

Project 2: (Bertics): Rhinovirus Stimulation of Macrophage Signaling and Mediator Production

This grant is centered on assessing the mechanisms by which rhinovirus activation of macrophages and monocytes regulates chemokine production. These studies are evaluating the role of the MAP kinases and several transcription factors (NF- κ B, STATs and IRFs) in rhinovirus-induced signaling events in human cells.

5 P50 HL0885940 (PI: Bertics (Proj 3); Dir: Jarjour) 02/01/08 -01/31/13

NIH/NIHLB

Program Project: Role of Eosinophils in Airway Inflammation and Remodeling.

Project 3: Signal Transduction Pathways in Eosinophil Priming.

This project is focused on examining the molecular mechanisms associated with the priming of human eosinophils by IL-5 family cytokines.

2 R01 HL069116 (PI: Busse; Co-Investigator: Bertics) 08/01/06-07/31/11

NIH/HLB

Severe Asthma from Respiratory Infections

Analyze the cell signaling responses that account for the heightened sensitivity of airway and peripheral macrophages from severe asthmatics to an inflammatory challenge.

DMR-0520527 (Co-Director IRG3: Bertics; Dir: de Pablo) 09/01/05-09/01/10

NSF

Materials Research Science and Engineering Center on Nanostructured Materials and Interface

This project addresses fundamental materials science that provides reagents/methods for enabling research and supports 1 graduate student.

5 P30 CA014520 (PI: Wilding; Program Leader- Cancer Cell Biology: Bertics) 04/01/01-03/31/12

NIH/NCI

UWCCC Cancer Center Support Grant

Support for senior and program leaders of cancer center; administration and evaluation of research cancer center members; support of shared resources and services for peer-reviewed, cancer-related projects; developmental support for new investigators, projects and shared resources.