

BIOGRAPHICAL SKETCH

NAME FURTH, PRISCILLA A. MD	POSITION TITLE Professor of Oncology and Medicine
eRA COMMONS USER NAME pfurth	

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Brown University, Providence, RI	ScB	1971-1975	Psychology(Physiological)
Yale University, New Haven, CT	MD	1975-1979	Medicine
Mount Sinai Medical Center, New York, NY	Residency	1979-1982	Internal Medicine
Harvard, Brigham/Beth Israel/Farber, Boston, MA	Fellowship	1982-1985	Infectious Disease
LTVB, NCI, NIH, Bethesda, MD	Post-doc	1989-1992	Tumor Virus Biology

B. Positions and Honors**Employment**

1977-79	Instructor, Law and the Biomedical Sciences, Yale University, New Haven, CT
1983-85	Instructor, Medicine/Infectious Diseases, Harvard Medical School, Boston, MA
1985-89; 1993-99	Assistant Professor of Medicine, University of Maryland, Baltimore, MD
1989-92	Senior Staff Fellow, LTVB, NCI/NIH, Bethesda, MD
1992-93	Visiting Scientist, Max Planck Institute of Biophysical Chemistry, Göttingen, Germany
1996-99	Assistant Professor of Physiology (secondary), University of Maryland, Baltimore, MD
1999-2001	Associate Professor of Medicine (tenure) and Physiology, Univ. of MD, Baltimore, MD
2001-present	Professor of Oncology (tenure), Lombardi Comp Cancer Cent, Georgetown Univ, Wash DC
2006-present	Director, Cellular and Molecular Biology Division, Department of Oncology, Georgetown U
2008-present	Professor of Medicine (secondary), Georgetown University, Washington, DC

Other Experience and Professional Memberships

2010-present	Member, University Committee on Rank and Tenure
2007-present	Program Leader, Growth Regulation of Cancer, NCI designated LCCC
2007-2010	Chair, Committee on Appointments and Promotions, Georgetown Univ Med Center
2007, 2008	American College of Sports Medicine (ACSM) Team Physician Course and Personal Trainer Certification
2005-present	Member, Center for Sex Differences, Georgetown University, Wash DC
1996-2003	Member, Graduate Faculty, Univ MD, Baltimore, MD
1996-2001	Member, IHV, Greenebaum CC, Center Repro Stud, Mol Cell Biol, Human Genetics, Univ MD
1999-2001	Member, Molecular and Cell Biology Program, Univ MD, Baltimore, MD
1997-present	Review Boards: Current Member, Cancer Genetics Study Section. Past member : NCI, NIDDK and NIDR at NIH, DOD, Mass Breast Cancer (Chair-2 yrs), Cal Breast Cancer Prog, Avon-NCI Progress for Patients, Israel Science Foundation, Komen Foundation, Marsha Rivkin Foundation
1998-present	Editorial Boards, J Mammary Gland Biology Neoplasia; Past: Breast Cancer Research

Honors

1975, Eva A. Mooar Premium, Sigma Xi, Brown Univ, Prov, RI; 1989, Specialist Award, UMD, Balt, MD; 1989, Natl Research Coun Assoc, Wash, DC; 1992, Humboldt Fellowship Award, Göttingen, Germany; 2007 Noel Soderberg Evans Award, Washington, DC; 2009 World Class University Faculty, Dankook University, Cheonan, Korea

C. Selected Peer-reviewed Publications (selected from over 100 peer reviewed publications)**Recent publications (in chronological order)**

1. Tilli, MT, Frech, MS, Steed, ME, Hruska, KS, Johnson, MD, Flaws, JA, Furth, PA. Introduction of ER α into the tTA/Tag conditional model precipitates the development of estrogen responsive mammary adenocarcinoma. *Am J Pathology* 2003,163:1713-1719. PMID: 14578170
2. Cotarla, I, Ren, S, Zhang, Y, Gehan, E, Singh, B, Furth, PA. Stat5a is tyrosine phosphorylated and nuclear localized in a high proportion of human breast cancers. *Int J Cancer* 2004,108: 665-671. PMID: 14696092
3. Tilli, MT, Reiter, R, Oh, AS, Henke, RT, McDonnell, K, Gallicano, GI, Furth, PA*, Riegel, AT*. Over-expression of an N-terminally truncated isoform of the nuclear receptor coactivator AIB1/ACTR leads to altered proliferation of mammary epithelial cells in transgenic mice. *Mol Endo* 200519:644-56. *co-corresponding/senior authors PMID: 15550471
4. Frech, MS, Halama, ED, Tilli, MT, Singh, B, Gunther, EJ, Chodosh, LA, Flaws, JA, Furth, PA. Deregulated ER α Expression in Mammary Epithelial Cells of Transgenic Mice Results in the Development of DCIS. *Cancer Research* 2005, 65: 681-85. PMID: 15705859
5. Jones, LP, Li, M, Halama, ED, Ma, Y, Lubet, R, Grubbs, CJ, Deng, C-X, Rosen, EM, Furth, PA. Promotion of mammary cancer development by tamoxifen in a mouse model of Brca1. *Oncogene* 2005, 24:3554-62. PMID: 15750629
6. Ma, Y, Katiyar, P, Jones, LP, Fan, S, Zhang, Y, Furth, PA, Rosen, EM. The Breast Cancer Susceptibility Gene BRCA1 Regulates Progesterone Receptor Signaling in Mammary Epithelial Cells. *Mol Endo* 2006 20:14-34. PMID: 16109739
7. Herschkowitz, J, Simin, K, Weigman, VJ, Mikaelian, I, Usary, J, Hu, Z, Rasmussen, KE, Jones, LP, Assefnia, S, Chandrasekharan, S, Backlund, MG, Yin, Y, Khramtsov, AI, Glazer, RI, Brown, PH, Green, JE, Kopelovich, L, Furth, PA, Palazzo, JP, Olopade, OI, Bernard, PS, Churchill, GA, Van Dyke, T, Perou, CM. Identification of conserved gene expression features of murine breast carcinoma models relative to each other and to human cancers. *Genome Biology*, 2007, 8:R76. PMID: 17493263
8. Tilli, MT, Cabrera, MC, Parrish, AR, Torre, KM, Sidawy, MK, Gallagher, AL, Makariou, E, Polin, SA, Liu, MC, Furth, PA. Real-Time Imaging and Characterization of Human Breast Tissue by Reflectance Confocal Microscopy. *Journal of Biomedical Optics*, 2007, 10:051602. PMID: 17994884
9. Frech, MS, Torre, K, Robinson, G, Furth PA. Loss of cyclin D1 in concert with deregulated Estrogen Receptor alpha expression in the mammary gland induces upregulation of cyclin E and a DNA damage response. *Oncogene*, 2008, 27:3186-93. PMID: 18071314
10. Tilli MT, Parrish AR, Cotarla I, Jones, LP, Johnson, MD, Furth, PA. Comparison of mammary gland imaging techniques and applications: reflectance confocal microscopy, GFP imaging, and ultrasound. *BMC Cancer* 2008, 8:21. PMID: 18215290
11. Jones, LP, Tilli, MT, Assefnia, S, Torre, K, Halama, ED, Parrish, A, Rosen EM, Furth, PA. Activation of estrogen signaling pathways collaborates with loss of Brca1 to promote development of ER α negative and ER α positive mammary preneoplasia and cancer. *Oncogene*. 2008, 27:794-802. PMID: 17653086
12. Fereshteh, M, Tilli, MT, Kim, B, O'Malley, B, Xu, J, Wellstein, A, Furth, PA, Riegel, AT. The Nuclear Receptor Coactivator Amplified in Breast Cancer-1 is required for Neu (ErbB2/HER2) activation, signaling and mammary tumorigenesis in mice. *Cancer Research*, 2008, 68:3697-706. PMID: 18483252
13. Kleinberg, DL, Wood, TL, Furth, PA, Lee, AV. Growth hormone and Insulin-like growth factor-I in the transition from normal mammary development to preneoplastic mammary lesions. *Endocr Rev*. 2009, 30:51-74. PMID: 19075184
14. Miermont, AM, Parrish, AR, Furth, PA. Role of ER α in the differential response of Stat5a loss in susceptibility to mammary preneoplasia and DMBA-induced carcinogenesis. *Carcinogenesis* 2010 6:1124-31.
15. Díaz-Cruz ES and Furth, PA. Deregulated estrogen receptor alpha and p53 heterozygosity collaborate in the development of mammary hyperplasia. *Cancer Research*, 2010, 70:3965-74.
16. Cheema A, Knights CD, Rao, M, Catania J, Perez R, Simons B, Dakshanamurthy S, Kolukula VK, Tilli M, Furth PA, Albanese C and Avantaggiati ML Functional Mimicry of the acetylated C-terminal Tail of p53 by a SUMO-1 Acetylated Domain, SAD. *Journal of Cellular Physiology*, 2010 225:371-84.

D. Research Support**Ongoing Research Support**

1. RO1CA113477-01 Riegel (PI) 04/1/2005-03/31/2011 (no cost extension)

Role of AIB1 in growth factor signaling

The overall goal of this project is to investigate impact of changes in AIB1 expression levels on growth factor signaling focusing on the mammary gland. My responsibility is to collaborate on the design, execution and interpretation of mouse model-based experiments and assist in manuscript preparation.

Role: Co-investigator

2. RO1 CA112176 Furth (PI) 12/23/2004-11/30/2010 (no cost extension)

Progression and regression of mammary preneoplasia

The goals of this project are to determine the roles of AIB1, AIB1 Δ 3, Cyclin D1 and loss of Brca1 in ER α -initiated mammary cancer. My responsibility as PI is to supervise the overall design, execution and interpretation of experiments and take primary responsibility for ensuring the quality of manuscript preparation and meeting presentations.

Role: PI

3. RO1 CA150646 Rosen (PI) 02/09/2010-02/08/2015

Development of BRCA1-mimetic drugs for breast cancer

The goals of this project are to develop drugs that act as BRCA-1 mimetics to inhibit ER α and associated downstream signaling that is linked to breast cancer development. My responsibilities are to test the action of the BRCA-1 mimetic drugs *in vivo* on development, preneoplasia and cancer in mouse models.

Role: Co-investigator

4. KGO80359 Furth (PI) 05/1/08-04/3/11

The Susan G. Komen Breast Cancer Foundation

Disrupted estrogen signaling pathways collaborate with loss of p53 in the development of preneoplasia in breast cancer

The scientific goal of this project is to determine the stage(s) where deregulated and over expressed ER α interacts with loss of p53 in breast preneoplasia and cancer development. The career development goal of this project is to assist in the development of an independent career of a post-doctoral fellow. My responsibilities are to mentor the post-doctoral fellow in the design, execution and interpretation of the experiments and preparation of manuscripts and presentations.

Role: PI

5. R01CA89041 Furth (PI) 12/15/00-05/31/10 (no cost extension)

Mechanisms regulating reversal of pre- malignancy

The goal of this grant is to define molecular mechanisms that block regression of premalignancy focusing on the PPAR γ /RXR α , Rb and p53 signaling pathways. My responsibilities are to supervise the design, execution and interpretation of the experiments and prepare publications.

Role: PI

6. P30CA051008-16 Weiner (PI) 09/30/90-04/30/13

Cancer Center Support Grant

The goal of this grant is to promote collaborative research in the cancer center through core and administrative support. My responsibility is to be Co-Leader of the Growth Regulation of Cancer program.

Role: Program Co-Leader, Growth Regulation of Cancer

7. BC100440. Nakles (PI) 12/01/2010-12/31/13

Department of Defense Breast Cancer Research Program Predoctoral Traineeship Award.: Evaluating Factors modifying the impact of tamoxifen on breast cancer progression due to loss of BRCA1 function using genetically engineered mice. The goal of this grant is to explore how loss of Brca1 alters the agonist/antagonist activity of tamoxifen on ER α . My responsibility is to help the student design, execute and interpret the research.

Role: Mentor

Completed Research Support (last three years)

1. W81XWH-07-1-0588 Furth/Shields (Synergy PIs) 09/01/07-08/31/10

Department of Defense Breast Cancer Research Program Synergy Award

Role of Impaired TGF-beta Signaling in Development of BRCA1-Deficient Breast Cancer

The goal of this project is to determine if loss of Brca1 mediated decreases in TGF-beta family members is a factor that increases breast cancer risk. . My responsibility as synergy PI is to supervise the overall design, execution and interpretation of experiments and take primary responsibility for ensuring the quality of manuscript preparation and meeting presentations for the mouse model-based experiments.

Role: Synergy PI

2. Daiichi Sankyo Furth (PI) 05/1/08-10/31/10

Impact of CS7017 on development of mammary preneoplasia and cancer with Brca1 loss

The goal of this project is to determine if PPARgamma agonist CS7017 can modify development of mammary preneoplasia. My responsibilities are to supervise the design, execution and interpretation of the experiments and generate accurate reports for Daiichi Sankyo and prepare publications.

Role:PI

3. RO1CA82599-06 Rosen (PI) 01/05/05-11/30/09

Brca1 modulates estrogen response in breast ca

The goal of this project was to determine how estrogen ligand availability alters mammary cancer development in Brca1 deficient mice.

Role: Co-investigator

4. RO1CA 080000-06 Rosen (PI) 09/28/05 -06/30/09

Role of BRCA1 as a human tumor suppressor gene

The goal of this project is to determine how loss of Brca1 may alter response to oxidative stress.

Role: Co-investigator

5. BCTR86106 The Susan G. Komen Breast Cancer Foundation Liu (PI) 05/01/06-04/30/08

Real-Time Imaging of Human Breast Tissue by Reflectance Confocal Microscopy (RCM)

The goal of this project were to determine the utility of RCM for real-time breast tissue imaging.

Role: Co-PI

6. BCTR0503799 The Susan G. Komen Breast Cancer Foundation (Rosen, PI) 05/1/2005-04/30/2007

Progesterone signaling and Brca1.

Role: Co-Investigator

7. PDF0402444 The Susan G. Komen Breast Cancer Foundation (Furth, PI) 05/01/04-04/30/07

The role of Brca1 in development and maintenance of genomic integrity in the terminal end bud.

Role: PI and Mentor to post-doctoral fellow