Award Number: DAMD17-00-1-0119

TITLE: Interdisciplinary Breast Cancer Training Program

PRINCIPAL INVESTIGATOR: Coral A. Lamartiniere, Ph.D.

CONTRACTING ORGANIZATION: The University of Alabama at Birmingham
Birmingham, Alabama 35294-0111

REPORT DATE: September 2003

TYPE OF REPORT: Annual Summary

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

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Department of the Army position, policy or decision unless so
designated by other documentation.
**Title and Subtitle**
Interdisciplinary Breast Cancer Training Program

**Author(s)**
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**Performing Organization Name(s) and Address(es)**
The University of Alabama at Birmingham
Birmingham, Alabama 35294-0111

E-mail: coral.lamartiniere@ccc.uab.edu

**Sponsoring / Monitoring Agency Name(s) and Address(es)**
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

**Supplementary Notes**

**Distribution / Availability Statement**
Approved for Public Release; Distribution Unlimited

**Abstract** (Maximum 200 Words)
The goal of the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program (IBCTP) is to educate and train predoctoral students in a multidisciplinary environment with a focus on breast cancer research. The aims are to:
1) recruit predoctoral trainees to the Interdisciplinary Breast Cancer Training program;
2) assure that predoctoral trainees obtain a broad-based breast cancer education and carry out interdisciplinary breast cancer research;
3) administer this program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers. For academic year 2003-2004, we recruited 3 new students, resulting in a total of 9 students in the IBCTP. The previous 6 students are in good academic standing. The IBCTP hosted 9 scientists to present seminars on cancer related research and to talk to the predoctoral trainees. The Breast Cancer Causation and Regulation course and Breast Cancer Journal Club received "very good" evaluations. One second year student and mentor submitted and received a Susan Komen predoctoral award for breast cancer research, and two new research grants were awarded to faculty, in part, because of student data used in the preparation of the grant applications. Five abstracts/presentations were made by 3 students at breast cancer related scientific meetings.

**Subject Terms**
Breast cancer, interdisciplinary, predoctoral, training

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**Number of Pages**
19

**Price Code**

**Limitation of Abstract**
Unlimited
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  Student Credentials
  IBCTP Seminar Speakers
  Lectures
  New Biosketches
INTRODUCTION

The goal of the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program (IBCTP) is to educate and train predoctoral students in a multidisciplinary environment with a focus on breast cancer research. The aims are to 1) recruit predoctoral trainees to the IBCTP; 2) assure that predoctoral trainees obtain a broad-based breast cancer education and carry out interdisciplinary breast cancer research; 3) administer this program with sufficient oversight to ensure high-quality education and training, efficient completion of degree requirements, and productive research careers. Our training program is designed to prepare and motivate trainees to pursue careers in the fields of breast cancer causation, prevention, diagnosis, therapy and education.

BODY

The executive committee has undergone two transitions. With the departure of Dr. Fran Kern, Dr. Danny Welch has taken over Mechanisms of Growth Control section and Dr. Therese Strong has taken over Gene Therapy in place of Dr. David Curiel. This remaining members of the executive committee remain: Robert B. Diasio (Cancer Pharmacology), Clinton Grubbs (Chemoprevention), Charles N. Falany (Cancer Causation), and Dr. Coral A. Lamartiniere (Program Director), plus one elected student/trainee, Craig Rowell. The executive committee is responsible for interviewing and selecting prospective IBCTP students, developing and implementing the academic and research program, review of individual student progress, the budget, and participating in Quarterly and Annual Program reviews.

TASKS FOR YEAR THREE (9/02 - 8/03)

1) Schedule IBCTP seminar speakers (Aim 2).
   The APPENDIX contains the list of breast cancer seminar speakers.

2) Hold quarterly program reviews (Aim 3).
   Quarterly program reviews were held by the executive committee to discuss, recruitment, the progress of the trainees, the curriculum and the evaluation of courses.

3) Monitor progress of trainees (Aim 3).
   At the quarterly meetings, progress of individual students was discussed. At the end of the summer meeting, laboratory evaluations turned in by the mentors were taken into consideration. To date, all students are making satisfactory progress academically and in research.

4) Evaluate Breast Cancer Journal Club course (Aim 3)
   Breast Cancer Journal Club was discussed and a slightly new format was implemented for year 4. While the presenter and all attendees are expected to participate, 4 primary discussants are assigned to enhance the overall interactions. To date, this is working very well.

5) Attend AACR meeting.
   The Program Director (Lamartiniere) and 2 Breast Cancer students (Rowell and Whitsett) attended and made platform and poster presentations. A list of the abstracts/presentations is contained in the APPENDIX. Students attended other meetings, including the Era of Hope DOD Breast Cancer Research Program Meeting in Orlando (See Abstracts/Presentations) where breast
cancer was a focus.

6. Hold annual program review (Aim 3).
   At the end of the summer executive committee meeting, the following recommendations were made.

   While the Breast Cancer Causation and Regulation course received a very good evaluation, it was recommended that the Mathematical Model of Cancer lecture be deleted since all students are now taking a full course in biostatistics. The Estrogens and Breast Cancer lecture was also discontinued with some of the contents moved to Steroid Hormone Action in the Breast lecture. With the addition of 2 new faculty, 2 new lectures were added for year 4: Tumor-Host/Stroma Interactions (Dr. Rosa Serra) and Cancer Regulation (Dr. Danny Welch). A copy of course content is enclosed in the APPENDIX. Also, Dr. Serra’s and Welch’s Biographical Sketches are enclosed.

   It was also recommended that we request a no cost continuation of one year (for 1/9/04-30/8/05) with potential funds that can be made available by moving some of the present second and third year students to some of the mentors' research grants, and graduate school and departmental funds. Having students paid off of research grants, starting in their second year, is a normal procedure at UAB and this would allow unused DOD money to be spent on recruiting and supporting more new Breast Cancer students in 2004-2005. Since DOD is not providing the opportunity for predoctoral training grant to be renewed, we intend to submit an R25 application to NIH to continue this specific training. In the mean time, this continuation would bridge us to 2005. We have been successful in recruiting very good students and we have the faculty to mentor the students. Faculty in the Integrative Biomedical Sciences give high praise to our students.

7) Prepare and submit annual report to DOD.
   Submitted.

   **KEY ACCOMPLISHMENTS**

   - Retained 6 predoctoral Breast Cancer students. The second year students, Hope Amm and Tim Whitsett have selected their mentors (Drs. Don Buchsbaum and Coral Lamartiniere, respectively).

   - Recruited 3 more predoctoral Breast Cancer students. Their credentials are provided in the APPENDIX.

   - For academic year 2002-2003, 6 applicants (from 39 completed applications) were interviewed and fellowships were offered to and accepted by 3 students (James Cody, April Adams, Kevin Roarty).

   - The appendix contains the lectures for the Breast Cancer Causation and Regulation course for 2002. Changes in this course take into consideration the course evaluation by the students and course director. The course in 2002 received a “very good” evaluation.

   - Submitted and received Susan Komen Breast Cancer Predoctoral Award for one student
and received 2 breast cancer research grants based in part on preliminary data from trainee.

REPORTABLE OUTCOMES

1) We have 9 students enrolled via the IBCTP.

2) Abstracts/Presentations


3) Predoctoral Award
Susan Komen Breast Cancer Predoctoral Award (DISS0201242)
P.I.: Dr. C.A. Lamartiniere; Predoctoral Student: Craig Rowell
First year: $30,000; Total: $60,000; 5/1/03 – 4/30/05
Grant Title: Effects of Genistein and TCDD on the Maturation of the Rat Mammary Gland: Alterations in Protein Tyrosine Kinase Activity and Signaling.

4) Research grants received in part because of preliminary data produced by Breast Cancer predoctoral student, Craig Rowell

NIEHS 1R21 ES012326-01 (C.A. Lamartiniere, PI) 4/18/03 – 3/30/06
First Year: $100,000; Total: $300,000
In Utero TCDD Programming for Mammary Cancer: Proteomic analysis of mammary gland from rats treated in utero with TCDD.

DOD DAMD BC 17-03-1-0433 (C.A. Lamartiniere, PI) 7/1/03-7/31/06
First Year: $150,000; Total: $428,249
APPENDIX

Student Credentials

IBCTP Seminar Speakers

2003 Breast Cancer Caustion and Regulation Lectures

Biographical Sketches for Drs. Rosa Serra and Danny Welch
### Students Enrolled in the University of Alabama at Birmingham Interdisciplinary Breast Cancer Training Program

<table>
<thead>
<tr>
<th>Student</th>
<th>Previous Degree Institution</th>
<th>Date of Entry</th>
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<th>Verbal</th>
<th>Quantitative</th>
<th>Analytical</th>
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<td>Craig Rowell</td>
<td>BS (95) Lake Forest IL</td>
<td>2000</td>
<td>3.8</td>
<td>580</td>
<td>610</td>
<td>680</td>
</tr>
<tr>
<td></td>
<td>MS (00) Lake Forest IL</td>
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<td></td>
<td>UAB</td>
<td></td>
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<tr>
<td>Chantelle</td>
<td>BS (99) U. Saskatoon Canada</td>
<td>2000</td>
<td>4.0</td>
<td>510</td>
<td>660</td>
<td>710</td>
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<tr>
<td>Bennetto</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mubina Nasrin</td>
<td>MD (94) M.R. Medical College, India</td>
<td>2001</td>
<td>no GPA</td>
<td>690</td>
<td>650</td>
<td>670</td>
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<tr>
<td>Damon Bowe</td>
<td>BS (99) Bates College Maine</td>
<td>2001</td>
<td>3.5</td>
<td>590</td>
<td>580</td>
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</tr>
<tr>
<td>Hope Amm</td>
<td>BS (02) Saint Mary's College</td>
<td>2002</td>
<td>3.38</td>
<td>550</td>
<td>640</td>
<td>490</td>
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<td>Timothy Whitsett</td>
<td>BS (02) Yale University</td>
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<td>3.59</td>
<td>530</td>
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<tr>
<td>James Cody</td>
<td>BS (01) UAB</td>
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<td>3.37</td>
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<td>April Adams</td>
<td>BS (01) U. Chicago</td>
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<td>-</td>
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<tr>
<td>Kevin Roarty</td>
<td>BS (95) Virg. Tech. M.S. (02) UAB</td>
<td>2003</td>
<td>3.74</td>
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2002-2003 University of Alabama at Birmingham
Interdisciplinary Breast Cancer Training Program Seminars

October 1, 2002  
James Shull, Ph.D.  
Professor, Eppley Inst. For Research in Cancer & Allied Diseases  
University of Nebraska Medical Center  
“Genetic Determinants of Susceptibility to Estrogen-Induced Mammary Carcinogenesis in the ACI Rat”

October 22, 2002  
Lakshmi Pendyala, Ph.D.  
Director, Pharmacokinetics/Pharmacodynamics Deptment of Medicine  
Roswell Park Cancer Inst., Buffalo, NY  
“Oxaliplatin: In Vitro and Translational Studies”

November 19, 2002  
Xinbin Chen, Ph.D.  
Associate Professor  
Department of Cell Biology  
UAB  
“The Transcriptional Activity of p 53 Tumor Suppressor”

December 10, 2002  
Jeffrey Rosen, Ph.D.  
Professor of Cellular and Molecular Biology  
Baylor College of Medicine, Houston  
“Regulation of Mammary Epithelial Cell Fate in Normal Development and Breast Cancer”

March 4, 2003  
Myles Brown, M.D.  
Associate Professor of Medicine  
Dana-Farber Cancer Institute  
Harvard Medical School  
“Coregulators and Cancer”

March 4, 2003  
Francis Ali-Osman, Ph.D.  
MD Anderson Cancer Center  
University of Texas  
“Transcriptional and Post-translational Regulation of GSTP1 Signaling and Metabolic Function by Ser/Thr Kinases”

April 16, 2003  
Carlos Arteaga, MD  
Professor of Medicine and Cancer Biology  
Vanderbilt University School of Medicine  
“Synergy between the TGF-beta and erbB Signaling Networks in Mammary Neoplasia”
April 29, 2003
Rosa Serra, Ph.D.
Assistant Professor
UAB Department of Cell Biology
“TGF-B in Stromal-epithelial Interactions in the Mammary Gland”

August 26, 2003
Satyabrata Nandi, Ph.D.
Professor
Dept of Molecular & Cellular Biology
University of California, Berkeley
“Estrogen Can Prevent Breast Cancer”
## Breast Cancer Causation and Regulation
### TOX 750
### Fall 2003
### Mondays and Wednesdays, 3-5 pm in Volker Hall 108D
### Course Director: Coral A. Lamartiniere
### Volker Hall 124; 4-7139; Coral.Lamartiniere@ccc.uab.edu
### Administrative Coordinator: Becky Warnix Volker Hall 101C; 4-4579; Becky.Warnix@ccc.uab.edu

<table>
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<th>Date</th>
<th>Topic</th>
<th>Instructor (Department)</th>
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<tr>
<td>Wed Sept 3</td>
<td>Overview of the Breast Cancer Problem</td>
<td>John Waterbor (Epi)</td>
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<tr>
<td>Mon Sept 8</td>
<td>Environmental Carcinogenesis</td>
<td>Coral Lamartiniere (Pharm/Tox)</td>
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<tr>
<td>Wed Sept 10</td>
<td>Steroid Hormone Action in the Breast</td>
<td>Barnes (Pharm/Tox)</td>
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<tr>
<td>Mon Sept 15</td>
<td>Oncogenes and Suppressor Genes</td>
<td>Mike Ruppert (Medicine)</td>
</tr>
<tr>
<td>Wed Sept 17</td>
<td>Signal Transduction and Breast Cancer</td>
<td>Jeffrey Kudlow (Endocrinology)</td>
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<td>Mon Sept 22</td>
<td>Exam</td>
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<td>Wed Sept 24</td>
<td>Nuclear Receptors as Targets for Novel Small Molecule Therapeutics</td>
<td>Donald Muccio (Chemistry)</td>
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<td>Mon Sept 29</td>
<td>Tumor-host/stroma Interactions</td>
<td>Rossa Serra (Cell Biol)</td>
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<td>Wed Oct 1</td>
<td>Primary Prevention</td>
<td>Mona Fouad (Preventive Medicine)</td>
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<td>Mon Oct 6</td>
<td>Chemically-induced Models of Breast Cancer (Chemoprevention)</td>
<td>Clinton Grubbs (Chemoprevention)</td>
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<td>Wed Oct 8</td>
<td>Cancer Pharmacology</td>
<td>Robert Diasio (Pharm/Tox)</td>
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<td>Wed Oct 15</td>
<td>Pathology of Breast Cancer</td>
<td>Andra Frost (Pathology)</td>
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<td>Mon Oct 20</td>
<td>Targeted Immunotherapy</td>
<td>Denise Shaw (Medicine)</td>
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<td>Wed Oct 29</td>
<td>Cancer Regulation</td>
<td>Danny Welch (Pathology)</td>
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<td>Mon Nov 3</td>
<td>Exam</td>
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BIographiesHICAL SKETCH
Provide the following information for the key personnel in the order listed on Form Page 2. Photocopy this page or follow this format for each person.

NAME
Rosa Serra

POSITION TITLE
Assistant Professor

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

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>St. Louis University, St. Louis, Missouri</td>
<td>B.S.</td>
<td>1986</td>
<td>Biology</td>
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<tr>
<td>The Pennsylvania State University, College of Medicine,</td>
<td>Ph.D.</td>
<td>1992</td>
<td>Cell and Molecular Biology</td>
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<tr>
<td>Hershey, PA</td>
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<tr>
<td>Vanderbilt University School of Medicine, Nashville, TN</td>
<td>Post-doctoral</td>
<td>1992-1995</td>
<td>Cell and Developmental</td>
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<td></td>
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<td>Biology</td>
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</table>

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of publications in the last three years exceeds two pages, select the most pertinent publications. DO NOT EXCEED TWO PAGES.

A. Positions and Honors.

Employment

1995 to 1999 Department of Cell Biology, Vanderbilt University School of Medicine, Nashville, Research Assistant Professor

1999-2002 Department of Molecular and Cellular Physiology, University of Cincinnati. Assistant Professor

2000-2002 Member of Developmental Biology Graduate Program
Children's Hospital Research Institute, Cincinnati

2002-present Department of Cell Biology, the University of Alabama at Birmingham Assistant Professor

2002-present Graduate Faculty member, Department of Cell Biology and the Cellular and Molecular Biologic Graduate Program, the University of Alabama at Birmingham. Associate Scientist Center for Metabolic Bone Disease, Arthritis and Musculoskeletal Center, Cancer Center, and Center for Adhesion and Matrix Research, UAB.

Additional Training

June 1993 American Association for Cancer Research
Histopathobiology of Neoplasia Workshop, Keystone, CO
Scientific Service

Scientific program committee ASBMR for 2001 meeting.
Ad hoc member PTHC study section NIH, February 2002.
Ad hoc Comparative Medicine special review panel, March 2002.
Scientific program committee ASBMR for 2002 meeting.
Ad hoc member CAMP study section, NIH October, 2002
Scientific program committee ASBMR for 2003 meeting.
Ad hoc member ORTH study section NIH February 2003
Scientific Program Committee ASBMR, 2003 meeting
Mail in review, CAMP study section, June 2003
Ad hoc member OBM2 study section, NIH, Oct 2003

B. Peer Reviewed Publications


Submitted:

Alvarez J, Costales L, Serra R, Balbin M, Lopez JM: Matrix metalloproteinases and vascular endothelium growth factor are expressed according to a precise spatiotemporal pattern during development of the secondary ossification center of the rat tibia. Submitted, 2003


Reviews and Commentaries


C. Research Projects Completed and Ongoing for the Past Three Years

R01 AR45605 Serra (PI)  4/1/2003 through 3/31/2008
"TGF-β SIGNALING IN CHONDOCYTE DIFFERENTIATION"
The major goal of this project is to determine the mechanism of TGF-β action in endochondral bone formation. Role: PI

R01 AR46982 Serra (PI)  5/1/00 through 4/30/05
"MECHANISM OF CHONDROPROTECTION BY TGF-β"
The major goal of this project is to determine how TGF-β regulates formation and persistence of articular cartilage. Role: PI
R01 CA91974  Serra (PI)  7/1/2001 through 6/30/2006
"TGFβ IN STROMAL-EPITHELIAL INTERACTIONS IN MAMMARY GLAND"
The major goal of this project is to determine the role of TGF-β signaling to the stroma in regulation of branching
morphogenesis and tumor formation in mouse mammary gland.
Role: PI

The Department of the Army Office of Congressionally Directed Research, Post-doctoral Fellowship
Crowley (PI)  8/1/01 through 7/31/04
"THE INFLUENCE OF STROMAL TGF-β RECEPTOR SIGNALING ON MOUSE MAMMARY NEOPLASIA"
Role: Mentor

Charlotte Geyer Foundation  Horseman (PI)  12/1/00 through 5/31/01
"Stages of Breast Development: Normal to Metastatic Disease"
Role: Co-Investigator

PHS 398 (REV. 4/98)  (Form Page 6) Page
Number pages consecutively at the bottom throughout the application. Do not use suffixes such as 3a, 3b.
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2. Photocopy this page or follow this format for each person.

NAME
Danny R. Welch

POSITION TITLE
Leonard H. Robinson Professor of Pathology

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

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<th>INSTITUTION AND LOCATION</th>
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<tr>
<td>University of California - Irvine</td>
<td>B.S.</td>
<td>1980</td>
<td>Biology (Cell Biology)</td>
</tr>
<tr>
<td>University of Texas - Houston (M.D. Anderson Cancer Ctr.)</td>
<td>Ph.D.</td>
<td>1984</td>
<td>Biomedical Sciences (Tumor Biology)</td>
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<tr>
<td>M.D. Anderson Cancer Center (Advisor: G.L. Nicolson)</td>
<td>Postdoc</td>
<td>1984</td>
<td>Metastasis</td>
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NOTE: The Biographical Sketch may not exceed four pages. Items A and B may not exceed two of the four-page limit.

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

The Upjohn Company
8/84-6/88 Scientist I: Department of Cancer and Infectious Diseases Research
7/88-10/88 Scientist II: Department of Cancer and Infectious Diseases Research

Glaxo, Inc.
10/88-10/89 Senior Scientist III: Department of Chemotherapy,
10/89-5/90 Research Investigator: Department of Chemotherapy

The Pennsylvania State University College of Medicine
11/02-06/03 Adjunct Associate Professor of Pathology
07/97-10/02 Associate Professor of Pathology (tenured 1999), Jake Gittlen Cancer Research Institute
02/02-10/02 Associate Professor of Pharmacology
10/01-09/02 Director, Penn State-Natl. Fndn. Cancer Res. Center for Metastasis Research
11/90-6/97 Assistant Professor, Jake Gittlen Cancer Research Institute, Department of Pathology
11/91-present Member - Graduate Faculty, The Pennsylvania State University

The University of Alabama at Birmingham
11/02-present Leonard H. Professor of Pathology, Division of Molecular and Cellular Pathology
11/02-present Senior Member, Comprehensive Cancer Center
11/02-present Member, Graduate Faculty
10/02-present Director, National Foundation for Cancer Research Center for Metastasis Research

Study Sections and Other Professional Activities
Member - Carcinogenesis, Nutrition & Environment Committee—American Cancer Society (1997-2003; Vice-chair 2002; Chair 2003)
Chair, California Cancer Research Program — Biomedical Study Section C (2000, 2002)
Member, Ad hoc - U.S. Public Health Service - NCI (P30, U01, P01, RO1 grants) (1998-2004)
Member - NASA Biomedical review panel (1997, 1999)
Medical Director-at-Large, American Cancer Society - Pennsylvania Division (1992-2001)


Awards/Honors: American Cancer Society PA-Division Chairman’s Award for Outstanding Efforts in Cancer Control (2000)

B. Selected peer-reviewed publications. Total — 97 Peer-reviewed; 137 abstracts; 17 book chapters; Editor 3 books:


C. Research Support. List elected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and responsibilities of principal investigator identified above.

ACTIVE

5R01 CA87728-02 (Welch) 07/01/00 - 06/30/04 35%
PHS/NCI
Molecular Regulation of Breast Cancer Metastasis
Goals: Biochemical characterization of BRMS1, a human breast cancer metastasis suppressor gene.

BC010266 (Welch) 05/31/02 - 06/30/05 10%
Department of Defense - Idea
Metastasis Genes in Breast Cancer to Bone
Goals: To determine whether chromosome 11 and osteopontin are determinants of breast cancer metastasis to bone.

No Identifying Number (Welch) 10/01/01 - 9/30/03 5% (no salary)
National Foundation for Cancer Research
NFCC Center for Metastasis Research
Goals: I am the director of a multi-investigator, multi-institutional team studying metastasis. The center provides funding for seed grants among members. Initial studies will focus on bone metastasis and melanoma metastasis.

DAMD17-01-1-0362 (Welch, PI, Postdoctoral Fellowship) 07/01/01 - 06/30/04 minimal
U.S. Army Medical Research & Materiel Command
Understanding the Mechanism of Action of Breast Metastasis Suppressor BRMS1
Goal: Postdoctoral Fellowship [Rajeev S. Samant]

HSF-GEF Scholar’s Fund 01/01/03 - 12/31/03 minimal
University of Alabama at Birmingham
$100,000
Goal: Equipment grant to purchase of animal caging systems.

R50 CA89019 (Bland) 10/01/03 - 09/30/05 25%
PHS/NCI
SPORE in Breast Cancer. Project #2 (Project Director): Molecular Regulation of Breast Cancer Metastasis
Goals: (1) Test whether metastasis suppressor gene expression correlates with frequency and distribution of breast cancer metastasis in patients. (2) To develop osteotropic breast cancer cell lines and test whether BRMS1 is a metastasis suppressor gene to bone.
<table>
<thead>
<tr>
<th>Grant Title</th>
<th>Proposal Dates</th>
<th>Amount</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genzyme Corporation (Welch)</td>
<td>10/05/98 - 10/16/01</td>
<td>minimal</td>
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<tr>
<td>Compound Screening</td>
<td>$54,042</td>
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<tr>
<td>Pharmacia (Welch)</td>
<td>12/01/00 - 11/30/01</td>
<td>5%</td>
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<tr>
<td>Proprietary Study</td>
<td>$74,187</td>
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<tr>
<td>RO1 CA62168 (Welch)</td>
<td>07/15/94 - 06/31/01</td>
<td>35%</td>
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<tr>
<td>Metastasis Suppressor Gene in Human Cutaneous Melanoma</td>
<td>$961,773</td>
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<tr>
<td>DAMD17-96-1-6152 (Welch)</td>
<td>07/01/96 - 06/30/00</td>
<td>25%</td>
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<tr>
<td>U.S. Army Medical Research &amp; Materiel Command</td>
<td>$785,901</td>
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<tr>
<td>Molecular Mechanisms of Metastasis Suppression Human Breast Cancer</td>
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<tr>
<td>RO1 CA66021 (Fountain - Welch Subcontract)</td>
<td>08/01/97 - 07/31/99</td>
<td>10%</td>
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<tr>
<td>Dissecting the roles of chromosome 11q genes in human melanoma</td>
<td>$24,626</td>
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<tr>
<td>D1550100403 (Welch)</td>
<td>10/01/01 - 04/30/02</td>
<td>minimal</td>
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<tr>
<td>Susan G. Komen Breast Cancer Foundation</td>
<td>$15,000</td>
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<tr>
<td>Study of BRMS1 Mechanisms of Action Using a Homozygous Null Knock-out Mouse</td>
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<tr>
<td>Goal: Dissertation Research Award</td>
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<tr>
<td>No Identifying number (Welch)</td>
<td>07/01/02 - 06/30/04</td>
<td>5% (no salary)</td>
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<tr>
<td>Tobacco Settlement Formula Fund</td>
<td>$242,846 D.C.</td>
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<tr>
<td>Breast Cancer Metastasis to Bone</td>
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<tr>
<td>Goals: To obtain pulmonary data necessary for application of program projects grant (Co-investigators: H.J. Donahue, C.V. Gay, A.M. Mastro)</td>
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<tr>
<td>BC010669 (Welch, PI, Pre-doctoral Fellowship)</td>
<td>06/01/02 - 05/31/05</td>
<td>minimal</td>
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<tr>
<td>Department of Defense - Postdoctoral fellowship</td>
<td>$22,000</td>
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<tr>
<td>Study of BRMS1 Mechanisms of Action Using a Homozygous Null Knock-out Mouse</td>
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<tr>
<td>Goal: Dissertation Research Award [Michael T. Debies, decided not to move to UAB; so grant was transferred to new PI]</td>
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<tr>
<td>No Identifying Number (Welch)</td>
<td>10/01/95 - 03/30/03</td>
<td>5% (no salary)</td>
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<tr>
<td>National Foundation for Cancer Research</td>
<td>$86,956 D.C.</td>
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<tr>
<td>Molecular Basis of Cancer Metastasis</td>
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<tr>
<td>Goals: To utilize microarrays for identifying metastasis-associated genes in breast cancer and melanoma. (Now NFCR Center)</td>
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<tr>
<td>1RO1 CA809391-01 (H.J. Donahue)</td>
<td>04/01/01 - 03/31/06</td>
<td>10%</td>
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<tr>
<td>PHS/NCI</td>
<td>$166,000 D.C.</td>
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<tr>
<td>Intercellular Communication in Breast Cancer Metastasis to Bone</td>
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<tr>
<td>Goals: To assess the role of tumor cell-cell gap junctions in the development of bone metastasis. This grant may again be listed under active if the universities negotiate how to handle indirect costs.</td>
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<tr>
<td>BC991163 (Eckert)</td>
<td>07/01/00 - 06/30/03</td>
<td>5%</td>
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<tr>
<td>Neoplastic Consequences of a Mutator Phenotype in Human Breast Epithelial Cells</td>
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<tr>
<td>Goals: To test the hypothesis that a mutator phenotype may be responsible for tumorigenicity and/or progression of human breast cancer. D.R. Welch, Co-investigator, is responsible for all in vivo studies.</td>
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<tr>
<td>PDF-2000-218 (Welch, PI, Postdoctoral Fellowship)</td>
<td>10/01/00 - 09/30/03</td>
<td>minimal</td>
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<tr>
<td>Susan G. Komen Breast Cancer Foundation</td>
<td>$35,000 D.C.</td>
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<tr>
<td>BRMS1 as a Prognostic Tool in Breast Cancer</td>
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<tr>
<td>Goals: Postdoctoral fellowship to determine if BRMS1 mutations exist in patient specimens and if BRMS1 can be used as a diagnostic/prognostic tool in immunohistochemical studies. [Lalita R. Shevde]</td>
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