BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
LaRue, Amanda C. (Ph.D.)	**Research Health Scientist, Research Service (VAMC); Asst Prof, Dept of Pathology & Laboratory Medicine (MUSC)**
eRA COMMONS USER NAME LARUEAC	

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
Wofford College, Spartanburg, SC	BS, BA	1993-1997	Biology, French
Medical University of South Carolina, Charleston, SC	PhD	1999-2003	Molecular, Cellular and Pathobiology/Dev Bio
Medical University of South Carolina, Charleston, SC	Post-Doc	2003-2005	Hematology

A. Positions

Professional Experience

1997-1999 Research Specialist II, Department of Cell Biology and Anatomy, MUSC, Charleston, SC (Supervisor - Christopher J. Drake, Ph.D.)
2003-2005 Postdoctoral Fellow, Department of Medicine, MUSC, Charleston, SC (Mentor - Makio Ogawa, M.D., Ph.D.)
2003-2005 Postdoctoral Fellow (WOC), Research Service, Ralph H. Johnson VA Medical Center, Charleston, SC (Mentor - Makio Ogawa, M.D., Ph.D.)
2005-2007 Assistant Professor, Department of Medicine, MUSC, Charleston, SC
2005-Present MREP Awardee/Research Health Scientist, Research Service, Ralph H. Johnson VA Medical Center, Charleston, SC
2007-Present Assistant Professor, Department of Pathology and Laboratory Medicine, MUSC, Charleston, SC

Professional Memberships/Services

2002-2003 American Society for Cell Biology, Member
2003-2004 American Association of Anatomists, Member
2004-2006 IACUC of the Ralph H. Johnson VA Medical Center, Member
2006-2007 IACUC of the Ralph H. Johnson VA Medical Center, Vice-Chair
2007 Biosafety Subcommittee of the Ralph H. Johnson VA Medical Center, Member
2004-Present International Society for Stem Cell Research, Member
2004-Present American Society of Hematology, Member
2005-Present Hollings Cancer Center, MUSC, Research Associate Member
2005-Present Cancer Genes & Molecular Regulation Program and Hematological Malignancies Program, MUSC, Member
2006-Present American Association for Cancer Research, Active Member
2006-Present American Association for Cancer Research, Women in Cancer Research, Member
2007-Present Research & Development Committee of the Ralph H. Johnson VA Medical Center, Member
2007-Present IACUC of the Ralph H. Johnson VA Medical Center, Chair

Teaching

2006 Lecturer, Graduate Studies Program, “Topics in Cancer Research”, MUSC, Charleston, SC
2007 Graduate School Faculty Member, Cancer Biology Program, Microbiology and Immunobiology Program, MUSC, Charleston, SC
2007 Mentor, Michael A. Smith, PhD, Summer Health Professional Program, MUSC, Charleston, SC
2007 Mentor, Joshua Kellner, College of Graduate Studies, MUSC, Charleston, SC
2007 Judge, Student Research Day 2007, MUSC, Charleston, SC
2008 Medical Scientist Training Program, Admissions Interviewer, MUSC, Charleston, SC
2008 Lecturer, “Stem Cells,” Summer Undergraduate Research Program, MUSC, Charleston, SC
2008 Lecturer, “Regenerative Medicine and Stem Cells,” Molecular Medicine Course, Southeastern Pre-doctoral Training in Clinical Research Program, MUSC, Charleston, SC
2008 Mentor, Elizabeth VanCott, Summer Undergraduate Research Program, MUSC, Charleston, SC
2008-Present Mentor, Romeo S. Abangan, Jr., College of Pharmacy, MUSC, Charleston, SC
2008-Present Graduate Committee, Jarrett Walsh, College of Graduate Studies, MUSC, Charleston, SC

B. Selected peer-reviewed publications (in chronological order).

1. Drake CJ, **LaRue A**, Ferrara N and Little CD. (2000). VEGF regulates cell behavior during vasculogenesis. *Developmental Biology,* 224, 18-188.
2. Argraves WS, **LaRue AC**, Fleming PA and Drake CJ. (2002). VEGF is required for the assembly but not the maintenance of embryonic blood vessels. *Developmental Dynamics*, 225, 298-304.
3. **LaRue AC,** Mironov VA, Argraves WS, Czirók A, Fleming PA and Drake CJ. (2003). Patterning of embryonic blood vessels. *Developmental Dynamics*, 228, 21-29.
4. **LaRue AC,** Lansford R and Drake CJ. (2003). Blood island-derived stem cells contribute to intraembryonic vasculogenesis. *Developmental Biology*, 262, 162-172.
5. Drake CJ, Fleming PA, **LaRue AC,** Barth JL, Chintalapudi MR and Argraves WS. (2004). Differential distribution of Cubilin and Megalin expression in the mouse embryo. *The Anatomical Record, Part A*, 277A:163-170.
6. **LaRue AC,** Zile MH and Drake CJ. (2004). Normal vascular morphogenesis requires retinol-mediated regulation of endothelial cell numbers. *Developmental Dynamics,* 230(4), 666-674.
7. Wang Y, Schulte BA, **LaRue AC**, Ogawa M and Zhou D. (2006). Total body irradiation selectively induces murine hematopoietic stem cell senescence. *Blood,* 107, 358-366.
8. **LaRue AC,** Masuya M, Ebihara Y, Fleming PA, Visconti RP, Ogawa M and Drake CJ. (2006). Hematopoietic origins of fibroblasts: I. In vivo studies of fibroblasts associated with solid tumors. *Experimental Hematology,* 34, 208-218.
9. Ebihara Y, Masuya M, **LaRue AC,** Yang S, Owens RW, Argraves K, Visconti RP, Fleming PA, Minamiguchi H, Hill WD, Martin-Studdard A, Drake CJ & Ogawa M. (2006). Hematopoietic origin of fibroblasts: II. In vitro studies of fibroblasts, CFU-F & fibrocytes. *Exp. Hema.,* 34, 219-229.
10. Visconti RP, Ebihara Y, **LaRue AC**, Fleming PA, McQuinn TC, Masuya M, Minamiguchi H, Markwald RR, Ogawa M, Drake CJ. (2006). An in vivo analysis of hematopoietic stem cell potential: hemato-poietic origin of cardiac valve interstitial cells. *Circ Res.*;98(5):690-6.
11. Ogawa M, **LaRue AC** and Drake CJ. (2006). Hematopoietic Origin of Fibroblasts/Myofibroblasts: Its Patho-physiological Implications. *Blood*, 108, 2893-2896.
12. Szalai G, **LaRue AC** and Watson DK. (2006). Molecular Mechanisms of Megakaryopoiesis. *Cellular and Molecular Life Sciences,* 63, 2460-2476.
13. Ogawa M and **LaRue AC.** (2007). Origin of CFU-F. *Experimental Hematology,* 35(9), 1319-1320.
14. Zhang XK, Moussa O, **LaRue A**, Bradshaw S, Molano I, Spyropoulos DD, Gilkeson GS, Watson DK. (2008). The transcription factor Fli-1 modulates marginal zone and follicular B cell development in mice. *J Immunol.*, 181(3):1644-54.

Book Chapters

1. **LaRue AC** and Ogawa M. (2007). Hematopoietic Origin of Fibrocytes. In Fibrocytes: New Insights into Tissue Repair and Systemic Fibroses. Editor, Richard Bucala. Yale University, USA.

Abstracts

1. **LaRue AC,** Zile MH and Drake CJ. (2000). A marked decrease in endothelial cell/angioblast number is associated with the vitamin A-deficient vascular phenotype. MUSC Research Day, Charleston, SC, 072.
2. **LaRue AC,** Mironov VA, Little CD, Argraves WS and Drake CJ (2001). Formation of small versus large caliber blood vessels is determined by VEGF regulation of endothelial cell density. Keystone Symposia, Keystone, CO, 307.
3. **LaRue AC**, Mironov VA, Little CD, Argraves WS and Drake CJ. (2001). VEGF regulation of endothelial cell density. MUSC Student Research Day, Charleston, SC, 153.
4. Argraves WS, Fleming PA, **LaRue AC** and Drake CJ. (2001). Allantois Explant Culture: A Novel *in vitro* Assay of Vasculogenesis. Hollings Cancer Center 1st Annual Research Retreat, MUSC, Charleston, SC.
5. Barth JL, Drake CJ, Fleming PA, **LaRue AC** and Argraves WS. (2001). Gene Expression Profiling of *de novo* Blood Vessel Formation. Hollings Cancer Ctr 1st Annual Research Retreat, MUSC, Charleston, SC.
6. Barth JL, Chintalapudi MR, Moschella PC, Klatt SM, Knaak C, McCarthy RA, **LaRue AC,** Drake CJ and Argraves WS. (2002). Interaction between Indian hedgehog and the endocytic receptor megalin suggest a role for megalin in yolk sac vasculogenesis. The American Society for Cell Biology 42nd Annual Meeting, San Francisco, CA. 2993.
7. **LaRue AC,** Lansford R and Drake CJ. (2002). Blood island-derived stem cells contribute to intra-embryonic vasculogenesis. American Society for Cell Biology 42nd Annual Mtg, San Francisco, CA. 678.
8. Giles B, **LaRue AC** and Drake CJ. (2002). VEGF regulation of endothelial cell proliferation and lineage recruitment during vasculogenesis. American Society for Cell Biology 42nd Annual Meeting, San Francisco, CA. 2987.

9. Visconti RP, Masuya M, McQuinn TC, Minamiguchi H, Fleming PA, Ebihara Y, **LaRue AC,** Abe T, Ogawa M and Drake CJ. (2004). The hematopoietic stem cell possesses cardiomyocyte potential. Experimental Biology: Tissue Biology and Regenerative Medicine, Washington, DC.
10. Ebihara Y, Masuya M, **LaRue AC,** Fleming PA, Visconti RP, Minamiguchi H, Drake CJ and Ogawa M. (2004). Fibroblasts, CFU-F and fibrocytes are derived from bone marrow hematopoietic stem cells. American Society of Hematology. San Diego, CA. 672.
11. **LaRue AC,** Masuya M, Fleming PA, Visconti RP, Ogawa M and Drake CJ. (2004). The hematopoietic origin of tumor fibroblasts and pericytes. American Society of Hematology. San Diego, CA. 673.
12. Zhang XK, **LaRue AC**, Moussa O, Molano I, Gallant S, Spyropoulos D, Ogawa M, Gilkeson G and Watson DK. (2005). Transcription factor Fli-1 is involved in the B cell development. Autumn Immunology Conference. Chicago, IL. 1402.
13. Abangan RS and **LaRue AC**. (2006). Hematopoietic stem cell-derived fibrocytes in solid tumor development. Hollings Cancer Center 6th Annual Research Retreat,MUSC, Charleston, SC.
14. Ogawa M, Sera Y, **LaRue AC**. (2007) Hematopoietic origin of mesenchymal cells. Abstract Book of the Fourth International Symposium "Genome Damage and Regenerative Medicine" pp 22-23. Hiroshima University, Hiroshima, Japan, November 6-7, 2006.
15. Abangan RS, Smith MA, Duncan JD, **LaRue AC** (2008). Regulation of murine hematopoietic stem cell-derived fibrocytes in solid tumor development. ISSCR 6th Annual Meeting, Philadelphia, PA. 1240.
16. Visconti R, **LaRue AC**, Gooz P, Fitzgibbon W, Sivritas S, Raymond JR, Gooz M (2008). Bone Marrow Cells Develop into Podocytes in Unilateral Ureteral Obstruction Model of Kidney Fibrosis. The 7th International Podocyte Conference, Toronto, Canada.

Invited Presentations

1. **LaRue AC,** Masuya M, Fleming PA, Visconti RP, Ogawa M and Drake CJ. (2004). A hematopoietic origin of tumor fibroblasts and pericytes. Hollings Cancer Center 4th Annual Research Retreat, MUSC, Charleston, SC.
2. **LaRue AC,** Masuya M, Fleming PA, Visconti RP, Ogawa M and Drake CJ. (2004). The hematopoietic origin of tumor fibroblasts and pericytes. American Society of Hematology. San Diego, CA.
3. Wang Y, Schulte BA, **LaRue AC**, Ogawa M and Zhou D. (2005). Total body irradiation selectively induces murine hematopoietic stem cell senescence. Hollings Cancer Center Fifth Annual Research Retreat, Medical University of South Carolina, Charleston, SC.
4. **LaRue AC**. (2006). Stem Cell Research. Annual SE/AALAS Meeting, Charleston, SC.
5. Abangan RS and **LaRue AC**. (2007). Regulation of HSC-derived fibrocyte participation in solid tumor development. Hollings Cancer Center 7th Annual Research Retreat, MUSC, Charleston, SC.

C. Research Support

Ongoing Research Support

N/A LaRue (PI) 10/01/2005-09/30/2008
Veterans Administration, Merit Review Entry Program Award
Bone marrow-derived hematopoietic stem cells in tumor development
The goals of this grant are 1) to characterize HSC-derived cells within the tumor stroma & determine the contribution of HSC-derived cells to the fibroblast and vascular components of the tumor stroma *in vivo*, 2) to elucidate the HSC lineage origin and transitional phenotype of HSC-derived cells in tumor development & 3) to examine the factors affecting the transition of HSCs to tumor fibroblasts & vascular cells.
Role: PI

RO1 HL075699 Ogawa (PI) 04/01/2005-03/31/2009
NIH/NHLBI
Tissue Reconstituting Potential of human stem cells
Goals: The major goals of this project are to determine the tissue reconstituting potential of human cord blood stem cells and to identify and purify the human stem cells using neonatal and adult mouse xenografts.
Role: Co-Investigator

R01 DK077821-01A1 Ogawa (PI) 03/01/2008-02/28/2010
NIH/NIDDK
Hematopoietic origin of mesenchymal cells
Goals: The aim of this project is to test the ability of hematopoietic stem cells to generate mesenchymal cells.
Role: Co-Investigator

1 R01 HL080168-01A2 Drake (PI) 07/01/2007-11/30/2012

NIH/NHBLI
HSC-derived fibroblasts in normal and diseased valves
Goals: The major goals of this project are 1) To elucidate the cell biology of HSC–derived HVICs under normal and pathological conditions, 2) To determine the therapeutic potential of HSC transplantation to valvular disease.
Role: Co-Investigator

2P50 DC 00422-21 Dubno (PI) 07/01/2008-06/30/2013
NIH/NIDCD
Experimental and clinical studies of presbyacusis
Human hematopoietic stem cells and the aging inner ear Project 4 (Lang, PI)
Goals: The aim is to study the potentials of human hematopoietic cells to engraft and differentiate into inner ear fibrocytes and other types of mesenchymal cells in vivo in severely immune compromised mice.
Role: Co-Investigator

Completed Research Support:
NIH-HL 07260 06/01/2003-06/01/2005
Institutional Postdoctoral Training Grant
Plasticity of hematopoietic stem cells
The goal is to learn the basic concepts and techniques of the field of hematology, including methods for purification, culture and transplantation of a single murine HSC and apply these methods to examine the potentials of HSCs, including their cardiogenic potential in both normal physiology and pathologies.
Role: Post Doctoral Fellow

N/A LaRue (PI) 01/01/2007-12/31/2007
American Cancer Society - Institutional Research Grant
Chemokine regulation of hematopoietic stem cell-derived peripheral blood fibrocytes and fibroblasts in the establishment of melanoma stroma
Goals: The major goals of this pilot study are to 1) determine if HSC-derived PBFs express chemokine receptors and if receptor-expressing PBFs home to the melanoma microenvironment and 2) identify the chemokine(s) responsible for recruitment/homing of HSC-derived PBFs and examine the effects of modulation of PBF recruitment/homing on melanoma development.
Role: PI

N/A Stenbit (PI) 02/01/2007-01/30/2008
Clinical & Translational Science Award - Institutional Pilot Project Program
Circulating stem cells and cytokine profile in better survivors of ARDS/ALI
This proposal is a pilot study to investigate the circulating bone marrow derived stem cells (BMDSC) that may be involved in the pathogenesis of Acute Respiratory Distress Syndrome (ARDS) and Acute Lung Injury (ALI).
Role: Collaborator

D. Time/Effort Statement: Research=50%; Clinical=0%; Teaching/Mentoring=20%; Administration=30%

This is a statement of overall effort including both VA and university appointments. Dr. LaRue currently has a full-time (40 hrs/wk) VA-paid appointment with VAMC Charleston, SC and a part-time, faculty appointment (20 hrs/wk) with the Medical University of South Carolina.