

CURRICULUM VITAE



Zongjin Li

Post-doctoral Fellow

Department of Radiology & MIPS (molecular imaging program at Stanford)

Stanford University

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PERSONAL INFORMATION

Contact Information

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Education

PhD	Peking Union Medical College, China Stem Cell Biology	2000-2005
MD (Equivalent)	Norman Bethune University of Medical Sciences Medicine	1989-1994

Post-Doctoral Training

The Molecular Imaging Program at Stanford (MIPS), Stanford University
2005-present
Mentor: Professor Joseph C. Wu

PROFESSIONAL EXPERIENCE

2005-now	Postdoctoral training Radiology & MIPS, STANFORD UNIVERSITY
1999-2000	Attending Physician Department of Cardiovascular Medicine, Rizhao Hygiene College.

1995-1999	Resident Internal Medicine, Rizhao Hygiene College, China.
1994-1995	Internship Rizhao Hygiene College, China

Licensure and Certification

2001	License of Practicing Doctors, China
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RESEARCH EXPERIENCE

MIPS, Stanford University, Postdoctoral Research Fellow 09/2005 - present

- Endothelial differentiation of human embryonic stem cell and its application for ischemia diseases.
- Homeostasis and transdifferentiation of hematopoietic stem cell by molecular imaging approach with transgene mouse (GFP-firefly luciferinscence).
- Multimodal molecular imaging (PET, MRI and optical) of: 1) stem cell transplantation, differentiation; 2) cancer initiation, progress, development and therapeutic response with antibodies and peptides.
- Proficient molecular imaging techniques in PET, MRI, BLI, fluorescence microscope, fluorescent dyes and radiometals labeling, imaging processing and analysis.
- Proficiency in design and implementing experiments using animal models.
- Conceived and wrote research proposals and successfully obtained funding totaling \$50,000
- Comprehensive skills in cellular and molecular biology experimental techniques: vectors construction, gene transfer and expression, DNA/RNA and protein analysis, cell and tissue culture, transient and stable transfection.

TEACHING EXPERIENCE

1999-2000	Instructor of Internal Medicine Rizhao Hygiene College, China
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RESEARCH INTERESTS

Molecular imaging, gene therapy, and stem cell therapy; Monitoring stem cell survival, proliferation, and differentiation of adult stem cells and human embryonic stem cells

PROFESSIONAL MEMBERSHIP

1994-2005	Member, Chinese Society of Medicine
2006-now	Associate member, Society for Vascular Medicine

2007-now	Member, The Society for Experimental Stroke (SFES)
2008-now	Associate member, International Society for Stem Cell Research (ISSCR)

HONORS AND AWARDS

2006	Top ten highest scoring posters at AHA's Young Investigators Forum, San Francisco
2006-2007	Dean's Postdoctoral Fellowship of Stanford University
2007	Jay D. Coffman Young Investigator Award, Society for Vascular Medicine and Biology
2008	2008, Finalists for Young Investigators Awards Competition of the American College of Cardiology, 57th Annual Scientific Session in Chicago
2008	Young Investigator Award, Cardiovascular Institute, Stanford University School of Medicine
2008	International Society for Stem Cell Research (ISSCR) Travel Award
2008	Mitzi and William Bland, MD Pilot Research Grant, Society of Nuclear Medicine

PUBLICATIONS

1. Li Z, Wilson KD, Smith B, Kraft D, Jia F, Xie X, Huang M, Robbins RC, Gambhir SS, Weissman IL, Wu JC. Molecular Signature and *In Vivo* Function of Human Embryonic Stem Cells Derived Endothelial Cells. **Submitted.**
2. Daadi MM, Li Z, Arac A, Grueter BA, Sofilos M, Malenka RC, Wu JC, Steinberg GK. Real-time in vivo molecular imaging and neurophysiological properties of human embryonic stem cell-derived neural stem cells during neural repair of stroke-damaged brain. **Submitted.**
3. Daadi DM, Arac A, Li Z, Davis A, Maag AL, Batnagar R, Sun G, Wu JC, Steinberg GK. Neuro-immuno-plasticity and stem cell therapy for stroke: Neuroplasticity and Immune-Mediated Effects of Grafted Human Embryonic Stem Cell-Derived Neural Stem Cells In Pediatric Hypoxic-Ischemic Brain Injury Model. **Submitted.**
4. Huang M, Chen ZY, Jia F, Li Z, Kay MA, Wu JC. Novel minicircle vector for cell based gene therapy in murine myocardial infarction. *Circulation*. 2009, accepted
5. Li Z, Lee A, Huang M, Chun H, Chung J, Chu P, Yang P, Rosenberg J, Robbins RC, Wu JC. Imaging Survival and Function of Transplanted Cardiac Stem Cells. *Journal of the American College of Cardiology*, 2009, 53(14): in press

6. **Li Z**, Han Z, Wu JC. Transplantation of Human Embryonic Stem Cell-Derived Endothelial Cells for Vascular Diseases. *J of Cell Biochem.* 2009, 106:194-199. **(Journal cover)** [Link](#)
7. Xie X, Chan KS, Cao F, Hang M, **Li Z**, Lee A, Weissman I, Wu JC. Imaging of STAT3 Signaling Pathway During Mouse Embryonic Stem Cell Differentiation. *Stem Cell and Development.* 2009; 18(2):33-42. [Link](#)
8. Huang M, Chan D, Jia F, Xie X, **Li Z**, Robbins RC, Chen X, Giaccia A, Wu JC. Short Hairpin RNA Interference Therapy for Ischemic Heart Disease. *Circulation.* 2008; 118: s226-233. [Link](#)
9. *Wilson KD, ***Li Z**, Wager R, Yue P, Tsao P, Nestorova G, Huang M, Hirschberg D, Yock PG, Quertermous D, Wu JC. Transcriptome alteration in the diabetic heart by rosiglitazone: Implications for cardiovascular mortality. *Plos One.* 2008, 3(7): e2609. **(*Co-first author)** [Link](#)
10. **Li Z**, Suzuki Y, Huang M, Cao F, Xie X, Connolly AJ, Yang PC, Wu JC. Comparison of reporter gene and iron particle labeling for tracking fate of human embryonic stem cells and differentiated endothelial cells in living subjects. *Stem Cells.* 2008, 26(4): 864-873. [Link](#)
11. **Li Z**, Wu JC, Sheikh AY, Kraft D, Cao F, Xie XY, Patel M, Gambhir SS, Robbins RC, Cooke JP, Wu JC. Differentiation, survival, and function of embryonic stem cell-derived endothelial cells for ischemic heart disease. *Circulation.* 2007; 116: I46-I54. [Link](#)
12. Xie X, Cao F, Sheikh AY, **Li Z**, Connolly AJ, Pei X, Li RK, Robbins RC, Wu JC. Genetic modification of embryonic stem cells with VEGF enhances cell survival and improves cardiac function. *Cloning and Stem Cell.* 2007; 9(4):553-567 [Link](#)
13. Cao F, Drukker M, Lin S, Sheikh AY, Xie X, **Li Z**, Connolly AJ, Weissman IL, Wu JC.. Molecular imaging of embryonic stem cell misbehavior and suicide gene ablation. *Cloning Stem Cells.*2007; 9(1): 107-17. [Link](#)
14. Lin S, Xie X, Patel MR, Yang YH, **Li Z**, Cao F, Gheysens O, Zhang Y, Gambhir SS, Rao JH, Wu JC. Quantum dot imaging for embryonic stem cells. *BMC Biotechnol.* 2007; 7(1):67 [Link](#)
15. Chang GY, Cao F, Krishnan M, Huang M, **Li Z**, Xie X, Sheikh AY, Hoyt G, Robbins RC, Hsiai T, Schneider MD, Wu JC.. Positron emission tomography imaging of conditional gene activation in the heart. *J Mol Cell Cardiol.* 2007; 43(1):18-26. [Link](#)
16. Xiao Z, Wang Y, Lu L, **Li Z**, Peng Z, Han Z, Hao Y. Anti-angiogenesis effects of meisoindigo on chronic myelogenous leukemia in vitro. *Leuk Res.*2006; 30(1): 54-9. [Link](#)

17. Li ZJ, Wang ZZ, Zheng YZ, Xu B, Yang RC, Scadden DT, Han ZC. Kinetic expression of platelet endothelial cell adhesion molecule-1 (PECAM-1/CD31) during embryonic stem cell differentiation. *J of Cell Biochem.* 2005; 95(3): 559-570. [Link](#)
18. Yang C, Zhang ZH, Li ZJ, Yang RC, Qian GQ, Han ZC. Enhancement of neovascularization with cord blood CD133+ cell-derived endothelial progenitor cell transplantation. *Thrombosis and Haemostasis.* 2004; 91(6): 1202-1212. [Link](#)
19. Li ZJ, Xu B, Li YH, Lu SH, Zheng YZ, Yang RC, Wang ZY, Qian GQ, Han ZC. Expression of alternative spliced isoforms of PECAM-1 during embryonic stem cells in vitro vasculogenesis and angiogenesis. *Natl Med J China,* 2005, 85(19):1299-1304. [Link](#)
20. Li ZJ, Yang C, Tang FW, Zhang ZH, XU B, Zhao QJ, Yang RC, Wang ZY, Han ZC. In Vitro Vasculogenesis and Angiogenesis of Mouse Embryonic Stem Cells. *Acta Acad Med Sin.* 2005, 27(1): 62-66. [Link](#)
21. Tang FW, Li ZJ, Fan CG, Lu SH, Liu B, Han ZC. Differentiation of mouse embryonic stem cells into neural cells in adherent monoculture. *China Biotechnology,* 2004, 24(12): 78-83.
22. Li ZJ, Han ZC. In vitro models of vasculogenesis and angiogenesis. *Journal of Chinese Microcirculation.* 2003, 7(1): 52-55.
23. Zhang ZH, Yang C, Li ZJ, Yang RC, Qian GQ, Han ZC. Isolation and Differentiation of Endothelial Progenitor Cells From Cord Blood. *Journal of Chinese Microcirculation.* 2003, 7(2): 78-81

ORAL PRESENTATIONS

1. Li Z, Wilson K, Huang M, Xie X, Robbins RC, Wu JC. Endothelial Progenitor Cells from Human Embryonic Stem Cells: Isolation and Transplantation for Myocardial Infarction. 6th ISSCR Annual Meeting, Philadelphia, USA, June 11-14, 2008
2. Li Z, Wu JC. Endothelial Differentiation of Human Embryonic Stem Cells. Molecular Medicine Tri-Conference, San Francisco, USA, Feb 24-27, 2008,
3. Li Z, Chun H, Xie X, Huang M, Hyot G, Chu P, Contag CH, Robbins RC, Wu JC. Cardiac resident stem cells exhibit mesenchymal features and provide no long-term benefit to cardiac function in mouse ischemic model of heart failure. 2008, American

College of Cardiology, 57th Annual Scientific Session in Chicago (**YIA Finalist, 3rd Place**)

4. **Li Z**, Wu JC, Cooke JP. Characterization of an ES derived endothelial cell line that genetically modified for differentiation, purification and tracking. *Vascular Medicine*. 2007, Vol 12, No.(2): S9 (**YIA, 3rd Place**)

5. **Li Z**, Wu JC. Endothelial Progenitor Cells from Murine ES Cells: Isolation and Transplantation for Myocardial Infarction. 2006, AHA Western Affiliate, San Francisco. (**YIA Finalist**)

6. **Li Z**, Han ZC. In Vitro Vasculogenesis and Angiogenesis of Embryonic Stem Cells. Biennium Meeting of the Chinese Medical Association, Eighth National Symposium on Hematology. 2004, Beijing, China

POSTER PRESENTATIONS

1. Huang M, Chen ZY, Jia F, **Li Z**, Kay MA, Wu JC. 2008, Novel minicircle vector for cell based gene therapy in murine myocardial infarction. *Circulation*. 2008 118:S_79.

2. Schultz GM, Tedesco MM, Miyama N, **Li Z**, Asagami T, Dalman RL. *In vivo* Bioluminescence Imaging of Progenitor Cells in Experimental Abdominal Aortic Aneurysm (AAA) Disease. Arteriosclerosis, Thrombosis and Vascular Biology Annual Conference, Atlanta, GA, Apr 16-18, 2008

3. Daadi MM, Arac A, **Li Z**, Sun G, Wu JC, Steinberg GK. Immune-Mediated Effects of Grafted Human Embryonic Stem Cells-Derived Neural Stem Cells In Pediatric Hypoxic-Ischemic Brain Injury Model. *24th International Symposium on Cerebral Blood Flow*, Chicago, June 29 -July 3, 2009

4. Daadi MM, **Li Z**, Arac A, Gruete BA, Wu JC, Malenka RC, Steinberg GK. Real-time in vivo molecular imaging and functional properties of human embryonic stem cell-derived neural stem cells in the brain. Congress of Neurological Surgeons (CNS) Annual Meeting, Orlando, Florida, Sep 20-25, 2008.

5. **Li Z**, Smith B, Huang M, Xie X, Gambhir SS, Wu J. Endothelial differentiation of human embryonic stem cell and functional blood vessels formation in vivo. *Blood* (ASH Annual Meeting Abstracts), 2008, 112: 5445

6. **Li Z**, Wu JC, Wang BY, Xu LJ, Giffard R, Wu JC, Cooke JP. Characterization of embryonic stem cells derived endothelial progenitor cells and transplantation in rat stroke model. *Vascular medicine*. 2006, Vol 11, No.(2): S37

7. Xie X, Cao F, Sheikh A, **Li Z**, Pei X, Gambhir SS, Robbins RC, Wu JC. Molecular Imaging of Cardiac Stem Cell Mediated Angiogenic Gene Therapy. AHA, Chicago, Nov 12-15, 2006.

8. Wu JC, Li, Z., Xu LJ, Giffard R, Wu JC, Cooke JP. Transplantation of embryonic stem cell derived endothelial cells promote functional recovery after cerebral ischemia. *Circulation*. 2006, Vol114(18): 627
9. Li, Z, Wu JC, Wu J, Cooke JP. Generation of an ES derived endothelial cell line genetically modified for differentiation, purification and tracking. 2006, 4th ISSCR meeting Poster Presentation
10. Wu JC, Li Z, Xu LJ, Giffard R, Wu JC, Cooke JP. Embryonic stem cells-derived endothelial cells transplantation in rat stroke model. 2006, 4th ISSCR meeting Poster Presentation
11. Han ZC, Li Z, Wang ZZ, Zheng YZ, Xu B, Yang RC, and Scadden DT. Unique Expression of Platelet Endothelial Cell Adhesion Molecule-1 (PECAM-1/CD31) on Embryonic Stem Cells. *Blood (ASH Annual Meeting Abstracts)*, 2004: 104: 3914.
12. Li Z, Han ZC. In vitro endothelial differentiation of embryonic stem cell. Ninth China Symposium on Experimental Hematology (CSEH). 2003, Shanghai, China.

RESEARCH SUPPORT

Dean's Postdoctoral Fellowship of Stanford University **7/1/2006-6/30/2007**

“Endothelial Progenitor Cells from Embryonic Stem Cells: Isolation, Delivery, and Imaging for Treatment of Myocardial Infarction”

PI: Dr. Zongjin Li

The primary goal of this project is test the hypothesis that the endothelial progenitor cells differentiated from mESCs are capable of inducing vasculogenesis after delivery to heart infarcted animals.

Mitzi and William Blahd, MD Pilot Research Grant **7/1/2008-6/30/2009**

“Molecular Imaging of Stem Cell Differentiation and Function”

PI: Dr. Zongjin Li

The aims of my SNM Research Grant in Nuclear Medicine/Molecular Imaging are to integrate the fields of molecular imaging, stem cell biology, and cardiovascular physiology to provide key biological insights into stem cell differentiation, survival, and function *in vivo*.