

CURRICULUM VITAE

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EDUCATION AND TRAINING

1987-91	B.S. National Taiwan University, Taiwan	
1991-93	M.S. University of California, San Diego	
1993-97	Ph.D. University of California, San Diego	Advisor: Susan S. Taylor
1997-98	Postdoctoral Fellow, UC San Diego	Advisor: Susan S. Taylor
1998-03	Postdoctoral Fellow, Whitehead Institute/MIT	Advisor: Harvey F. Lodish

POSITIONS AND EMPLOYMENT

1997-98 Postdoctoral Fellow, University of California, San Diego
1998-03 Postdoctoral Fellow, Whitehead Institute/Massachusetts Institute of Technology
2004-Present Assistant Professor, University of Texas Southwestern Medical Center at Dallas

HONORS AND AWARDS

1988 Presidential Award, National Taiwan University
1989 Wu Chong Yah Scholarship
1998 NIH National Research Service Award Fellowship
2002 American Cancer Society Postdoctoral Fellowship
2002 National Cancer Institute Howard Temin (K01) Award
2007 American Cancer Society New Investigator Award/UTSW

PROFESSIONAL AFFILIATIONS

American Society of Hematology
American Society of Cell Biology
European Society of Hematology
American Society of Biochemistry and Molecular Biology

ONGOING RESEARCH SUPPORT

Principal Investigator

National Institute of Health (5R01HL089966-06A1)
JAK2 Signaling in Erythropoiesis
08/2013-04/2018 \$250,000/yr

National Institute of Health/O'Brien Kidney Research Core Center (P30DK079328)
Erythropoietin receptor in renoprotection
06/2013-05/2014 \$35,000

Ladies Leukemia League

Identification of leukemia stem cells in myeloproliferative neoplasms
06/2012-12/2013 \$35,000

American Society of Hematology (awarded but not funded because of R01 funding)
JAK2 signaling in hematopoiesis and myeloproliferative neoplasms

Co-Principal Investigator

National Institute of Health (2R01HL040070-22A2, Hsia)
Signals for post-pneumonectomy compensatory lung growth
12/2010-11/2014 No M&O for Huang Lab

COMPLETED SUPPORT

Principal Investigator

National Institute of Health (1K01CA95150)
The Erythropoietin Receptor/Janus Kinase 2 Complex—Molecular Structure and Signaling
08/2002-07/2007 \$580,403 Total Award/Direct Costs

Welch Foundation (I-1602)
Identify STAT5 Target Genes with Cross-Linking and Chromatin Immunoprecipitation
06/2005-05/2008 \$150,000 Total Award/Direct Costs

American Cancer Society/UTSW (ACS-IRG 02-196-04)
Janus tyrosine kinase 2 activation by erythropoietin receptor
08/2007-09/2008 \$25,000 Total Award/Direct Costs

National Institute of Health (3R01HL089966-02S1)
Erythropoietin Receptor Signaling in Erythropoiesis – ARRA Stimulus Admin. Supplement
07/2009-06/2011 \$157,280

National Institute of Health (5R01HL089966)
Erythropoietin Receptor Signaling in Erythropoiesis
08/2007-05/2013 \$250,000/yr

Cancer Prevention and Research Institute of Texas (RP110090)
Inhibiting miR-451 as a Novel Treatment Modality for Polycythemia, a Pre-Leukemic Disease
12/2010-05/2013 \$190,000

Co-Investigator

National Institute of Health (1R21CA152977, Moe)
Generation of High Impact Resources for Erythropoietin Receptor Research
07/2010-06/2012 \$137,500

INVITED SEMINARS AND TALKS

2005 Department of Molecular Biology and Immunology, University of North Texas Health
Science Center
2005 Medical Scientist Training Program, University of Texas Southwestern Medical Center
2006 Hematology-Oncology Conference, University of Texas Southwestern Medical Center
2007 Institute of Molecular Biology, Academia Sinica, Taiwan
2007 Department of Chemistry, National Taiwan University, Taiwan

- 2009 Department of Molecular and Cellular Physiology, Louisiana State University Health Science Center
- 2009 Gordon Research Conference (Red Cells)
- 2009 Department of Chemistry, National Taiwan University, Taiwan
- 2010 Department of Chemistry and Biochemistry, University of Arizona
- 2010 Department of Developmental and Regenerative Biology, Mount Sinai School of Medicine
- 2010 European Hematology Association Annual Meeting, Spain
- 2011 Hematological Malignancies Retreat, University of Texas Southwestern Medical Center
- 2011 Department of Pharmacology and Cancer Biology, Duke University
- 2011 Departments of Pediatrics and Cancer Biology, University of Massachusetts Medical School
- 2011 Department of Pharmacology, University of Texas Southwestern Medical center
- 2012 2nd World Congress on Cell Science & Stem Cell Research
- 2012 Department of Biochemistry and Molecular Biology, Georgia Health Science University
- 2013 Hematology/Oncology Lecture Series, University of Texas Southwestern Medical Center
- 2013 Section of Hematology/Department of Internal Medicine and Cancer Center, Yale University
- 2013 Gordon Research Conference (Red Cells)
- 2013 Department of Physiology, University of Texas Southwestern Medical Center

REVIEWER DUTIES

Granting Agencies

- American Heart Association Basic Cell & Molecular Biology 4 (2007-2010)
- United States-Israel Bi-national Science Foundation (2010)
- Czech Science Foundation (2010)
- National Institute of Health (2012): Mechanisms of Terminal Erythroid Maturation

Journals

Editorial Board: *Frontiers in Molecular and Structural Endocrinology*

Ad hoc Review: *Nature Medicine*, *Proceedings of the National Academy of Sciences*, *Journal of Clinical Investigation*, *Blood*, *Journal of Cellular and Molecular Medicine*, *Hematologica*, *British Journal of Hematology*

PUBLICATIONS

Investigative Reports

1. **Huang LJ**, Durick KD, Weiner JA, Chun J, and Taylor SS. Identification of a novel A-Kinase anchoring protein that binds to both type I and type II regulatory subunits. *Journal of Biological Chemistry* 272(12):8057-8064 (1997).
2. **Huang LJ**, Durick KD, Weiner JA, Chun J, and Taylor SS. D-AKAP2, a novel protein kinase A anchoring protein with a putative RGS domain. *Proc. Natl. Acad. Sci. USA* 94(21):11184-11189 (1997).
3. **Huang LJ**, and Taylor SS. Dissecting cAMP binding domain A in the R1alpha subunit of cAMP-dependent protein kinase: Distinct subsites for recognition of cAMP and the catalytic subunit. *Journal of Biological Chemistry* 273(41): 26739-46 (1998).
4. Banky P*, **Huang LJ***, and Taylor SS. Dimerization/docking domain of the type I alpha regulatory subunit of cAMP-dependent protein kinase: Requirement for dimerization and

- docking are distinct but overlapping. *Journal of Biological Chemistry* 273(52):35048-55 (1998). (*equal first authorship)
5. **Huang LJ**, Wang L, Ma YL, Durick KD, Perkins G, Ellisman MH and Taylor SS. NH₂-terminal targeting motifs direct dual specificity A-kinase-anchoring protein 1 (D-AKAP1) to either mitochondria or endoplasmic reticulum. *Journal of Cellular Biology* 145(5):951-9 (1999).
 6. Harada H, Becknell B, Wilm M, Mann M, **Huang LJ**, Taylor SS, Scott JD, Korsmeyer SJ. Phosphorylation and inactivation of BAD by mitochondria-anchored protein kinase A. *Molecular Cell* 3(4): 413-22 (1999).
 7. Perkins G, Wang L, **Huang LJ**, Humphries K, Yao V, Martone M, Deerinck TJ, Violin JD, Newton A, Scott J, Ellisman MH, and Taylor SS. PKA, PKC and AKAP localization in the around the neuromuscular junction. *BMC Neuroscience* 2: 17 (2001).
 8. Rodriguez C, **Huang LJ**, Son JK, and Lodish HF. Functional cloning of the proto-oncogene brain factor-1 (BF-1) as a Smad-binding antagonist of TGF- β signaling. *Journal of Biological Chemistry* 276(32):30224-30 (2001).
 9. Constantinescu NS*, **Huang LJ***, Nam HS., and Lodish HF. The Erythropoietin receptor cytosolic juxtamembrane domain contains an essential, precisely oriented, hydrophobic motif. *Molecular Cell* 7(2): 377-385 (2001). (*equal first authorship).
 10. **Huang LJ**, Constantinescu NS, and Lodish HF. The N-terminal domain of Janus Kinase 2 is required for Golgi processing and cell surface expression of erythropoietin receptor. *Molecular Cell* 8:1327-1338 (2001).
Previewed by Juan S. Bonifacino in *Developmental Cell* 2: 1-7, (2002).
Commented by Ong SE and Pandey A. in *Trends in Biochemical Science* 27(3):118. (2002).
 11. Flint-Ashtamker G, Eisen-Lev R, Cohen J, **Huang LJ**, and Neumann D. Amino acid residues 268-276 of the erythropoietin receptor contain an endocytosis motif and are required for erythropoietin-mediated proliferation. *FEBS Letters* 518(1-3):189-94 (2002).
 12. Peri S, Navarro JD, Amanchy R, Kristiansen TZ, Jonnalagadda CK, Surendranath V, Niranjana V, Muthusamy B, Gandhi TK, Gronborg M, Ibarrola N, Deshpande N, Shanker K, Shivashankar HN, Rashmi BP, Ramya MA, Zhao Z, Chandrika KN, Padma N, Harsha HC, Yatish AJ, Kavitha MP, Menezes M, Choudhury DR, Suresh S, Ghosh N, Saravana R, Chandran S, Krishna S, Joy M, Anand SK, Madavan V, Joseph A, Wong GW, Schiemann WP, Constantinescu SN, **Huang L**, Khosravi-Far R, Steen H, Tewari M, Ghaffari S, Blobel GC, Dang CV, Garcia JG, Pevsner J, Jensen ON, Roepstorff P, Deshpande KS, Chinnaiyan AM, Hamosh A, Chakravarti A, Pandey A. Development of human protein reference database as an initial platform for approaching systems biology in humans. *Genome Research* 13(10):2363-71(2003).
 13. Tong W, Sulahian R, Gross AW, Hendon N, Lodish HF, and **Huang LJ**. The Membrane Proximal Region Of The Thrombopoietin Receptor (TpoR) Confers Its High Surface Expression by JAK2-dependent and independent mechanisms. *Journal of Biological Chemistry* 281(50): 38930-40 (2006).
 14. Michaely P, Zhao Z, Li WP, Garuti R, **Huang LJ**, Hobbs HH, Cohen JC. Identification of a VLDL-induced, FDNPVY-independent internalization mechanism for the LDLR. *EMBO J.* 26(14):3273-82 (2007).
 15. Lu X., **Huang LJ**, Lodish HF. Dimerization by a cytokine receptor is necessary and sufficient for constitutive activation of JAK2V617F. *Journal of Biological Chemistry* 283(9): 5258-66 (2007).
 16. Sulahian R, Cleaver O and **Huang LJ**. Ligand-induced EpoR internalization is mediated by JAK2 and p85 and is impaired by mutations responsible for primary familial and congenital polycythemia. *Blood* 113(21): 5287-97 (2009).
 17. Zhao L, Dong H, Zhang CC, Kinch L, Osawa M, Iacovino M, Grishin NV, Kyba M, and **Huang LJ**. A JAK2 inter-domain linker relays Epo receptor engagement signals to kinase activation.

- Journal of Biological Chemistry*. 284(39): 26988-98 (2009).
18. Gao S, Wang Q, **Huang LJ**, Lum L and Chen C. Chemical and Biological Studies of Nakiterpiosin and Nakiterpiosinone. *Journal of the American Chemical Society* 132:371-83 (2010).
 19. Zhao L, Ma Y Seemann J and **Huang LJ**. A regulating role of JAK2 FERM domain in hyperactivation of JAK2(V617F). *Biochemical Journal* 426(1):91-9 (2010).
 20. Patrick DM, Zhang CC, Tao Y, Yao H, Qi X, Schwartz RJ, **Huang LJ** and Olson EN. Defective erythroid differentiation in miR-451 mutant mice mediated by 14-3-3-zeta. *Genes and Development* 24(15): 1614-19 (2010).
 21. Tirado CA, Chen W, **Huang LJ**, Laborde C, Hiemenz M, Lou Z, Valdez F, Winick N, Patel S, Smart RL, Garcia R, and Koduru P. Novel JAK2 rearrangement resulting from a t(9;22)(p24;p11.2) in B- acute lymphoblastic leukemia. *Leukemia Research*. 34(12):1674-1676 (2010).
 22. Bulut G*, Sulahian R*, Ma Y, Chi N and **Huang LJ**. Ubiquitination regulates the internalization, endo-lysosomal sorting, and signaling of the erythropoietin receptor. *Journal of Biological Chemistry* 286(8): 6449-6457 (2011). (*equal first authorship)
 23. Wang H, **Huang LJ**, Liu Z, Garcia R, Li S and Galliani CA. Erythrosarcoma presents as bilateral ovarian masses in an infant with pure erythroid leukemia. *Human Pathology* 42(5): 749-758 (2011).
 24. Wan X[#], Ma Y[#], McClendon CL, **Huang LJ*** and Huang N.* Ab initio modeling and experimental assessment of Janus Kinase 2 (JAK2) kinase-pseudokinase complex structure. *PLOS Computational Biology*. 9(4): e1003022 (2013). (*co-corresponding authorship, [#]equal first authorship)
 25. Hu M, Shi M, Cho HJ, Zhang J, Pavlenco A, Liu S, Sidhu S, **Huang LJ** and Moe OW. Erythropoietin receptor (EpoR) – a downstream effector of klotho-induced cytoprotection. *Kidney International* 84(3): 468-481 (2013).
 26. Kang C, Wang Z, Cho C, Chang C, Chang T, Seemann J and **Huang LJ**. Chemical principles for the design of a novel fluorescent probe with high cancer-targeting selectivity and sensitivity. *Integrative Biology* 5: 1217-1228 (2013).
 27. Bulut G, Sulahian R, Yao H, and **Huang LJ**. Cbl ubiquitination of p85 is essential for Epo-induced EpoR endocytosis. *Blood* October 10 (2013).
 28. Potts MB, Kim HS, Fisher KW, Hu Y, Carrasco Y, Bulut GB, Ou Y, Herrera-Herrera ML, Cubillos F, Mendiratta S, Xiao G, Hofree M, Ideker T, Xie Y, **Huang LJ**, Lewis RE, MacMillan JB, and White MA. Broad-scale mode-of-action annotation of natural product perturbations by functional signature ontology (FUSION). *Science Signaling* October 15 (2013).
 29. Yao H, Ma Y, Zhao L, and **Huang LJ**. Gain-of-function JAK2 mutants specifies phenotypic pleiotropy in myeloproliferative neoplasms. (manuscript in preparation).
 30. Yao H, Ma Y and **Huang LJ**. Inhibition of microRNA-451 as a novel therapy for polycythemia vera. (manuscript in preparation).

Book Chapter

31. Ghaffari S, **Huang LJ**, Zhang J, and Lodish HF. Erythropoietins and Erythropoiesis: molecular, cellular, preclinical, and clinical biology; Chapter 6: Signaling processes. G. Molineux, M. Foote and S. Elliott, eds (2003) (Basel: Birkhauser Publishing).

Invited Article

32. **Huang LJ**, Shen Y, and Bulut G. Advances in understanding the pathogenesis of primary familial and congenital polycythaemia. *British Journal of Hematology*. 148(6): 844-52 (2010) (invited review).

TEACHING

UT Southwestern Medical Center

Medical School

2007-2013 Biology of Cells and Tissues Lecture/Laboratory

Graduate School

2004 Cells Thread Discussion Group
2004 Cancer Biology Lecture "Receptors and Cancer"
2005 Cancer Biology Lecture "Receptors and Cancer"
2005 Cells Thread Discussion Group
2006 Journal Club "Control of Cell Growth and Differentiation"
2006 Group Problem Solving
2006 Qualify Exam Abstract
2007 Signal Transduction core course "JAK-STAT signaling"
2008 Cells Thread Discussion Group
2008 Signal Transduction core course "JAK-STAT signaling"
2009 Cell Regulation Journal Club "Nuclear Signaling Pathways and Disease"
2009 Signal Transduction core course "JAK-STAT signaling"
2009 Cancer Biology Lecture "Receptors and Cancer"
2009 Ethics
2010 Signal Transduction core course "JAK-STAT signaling"
2010 Topics in Developmental Mechanism "Hematological ontology"
2011 Hallmarks of Cancer and Cancer Stem Cells

National Institute of Health (NHLBI)

2008-2010 Summer Institute Program to Increase Diversity in Health-Related Research, "Functional Genomics of Blood Disorders" program.
2012-2014 Programs to Increasing Diversity Among Individuals Engaged in Health-Related Research, "Functional and Applied Genomics of Blood Disorders" program.

TRAINEES

Graduate Student Trainees

Rita Sulahian, Genetics and Development Program 2005-2009
Ph.D., August 2009, currently a postdoctoral fellow at Harvard Medical School
Nicole Steele, Cell Regulation Program 2005-2006
M.S., May 2006
Jenny Alexander, Medical Scientist Training Program 2010-2012
Ph.D., June 2012, currently in medical school at UTSW
Gamze Bulut, Genetics and Development Program 2009-present
Awarded AHA predoctoral fellowship in 2012

Medical Student Trainees

Rui Mao Summer, 2012
Stephen Spurgin Summer, 2012

Postdoctoral Fellow Trainees

Lequn Zhao, Ph.D.	2005-2009	(Currently an associate specialist at UCSF)
Zhaoli Liu, Ph.D.	2008-2009	
Huiyu Yao, Ph.D.	2009-present	(Awarded a postdoctoral training grant from Cancer Prevention and Research Institute of Texas)
Shuzhen Liu, Ph.D.	2010-2012	(Currently a postdoctoral fellow at UTSW)

Visiting Scholars

Chi-chih Kang	2008	(Currently a postdoctoral fellow at Lawrence Berkeley National Laboratory)
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Pre-baccalaureate Trainees

Kenneth Ike	Summer, 2006
Jessica Shie	Summer, 2007
Evelyn Shen	Summer, 2012