

Curriculum Vitae

Duo Zhang, Ph.D.
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Academic Training:

7/2007 B.S. The College of Life Sciences, Nankai University, Tianjin, China; Bioscience
1/2014 Ph.D. Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China; Biochemistry and Molecular Biology (PhD advisor: Dr. Hao Ying)

Additional Training:

2/2008-8/2008 Intern in Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China (Supervisor: Dr. Feifan Guo)
1/2014-3/2015 Post Doc in Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China (Mentor: Dr. Hao Ying)
4/2015-7/2015 Post Doc in the Division of Pulmonary and Critical Care Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA (Mentor: Dr. Yang Jin)
8/2015-11/2018 Post Doc in the Pulmonary Center, Boston University School of Medicine, Boston, MA (Mentors: Drs. Yang Jin and Joseph P. Mizgerd)

Academic Appointments:

12/2018-07/2019 Research Instructor, Division of Pulmonary and Critical Care Medicine, Boston University School of Medicine, Boston, MA
08/2019-present Assistant Professor, College of Pharmacy at University of Georgia, Augusta, GA
08/2019-present Associate Member, Vascular Biology Center, Augusta University, Augusta, GA

Honors:

2006 Outstanding Student Awards of Nankai University
2010 Outstanding Student Awards of Chinese Academy of Sciences
2011 Presentation Award-Academic Conference of Shanghai Institutes for Biological Sciences
2015 First Class Fellowship Award from Postdoctoral Science Foundation of China
2016 Distinguished Young Scholars Award from National Science Foundation of China
2016 Poster Award - Pittsburgh-Munich International Lung Conference

Teaching Experience and Responsibilities:

7/2011-3/2015 Regular research training to Ph.D. candidates in Dr. Hao Ying's lab at Shanghai Institutes for Biological Sciences.
11/2015-present Lab safety coordinator and regular research training to graduate and undergraduate students in Dr. Yang Jin's lab at Boston University School of Medicine.

Other Professional Activities:

Professional Societies: Memberships, Offices, and Committee Assignments:

2015-present Member, American Thoracic Society
2019-present Member, American Heart Association

Editorial Boards:

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| 2015-present | Ad-Hoc Reviewer, BMC Pulmonary Medicine |
| 2015-present | Ad-Hoc Reviewer, Therapeutics and Clinical Risk Management |
| 2016-present | Editorial Board Member, American Journal of Biomedical and Life Sciences |
| 2016-present | Editorial Board Member, Journal of Medical and Health Sciences |
| 2015-present | Ad-Hoc Reviewer, BMC Pulmonary Medicine |
| 2015-present | Ad-Hoc Reviewer, Therapeutics and Clinical Risk Management |
| 2016-present | Ad-Hoc Reviewer, Cancer Letters |
| 2016-present | Ad-Hoc Reviewer, Molecular Medicine Reports |
| 2016-present | Ad-Hoc Reviewer, International Journal of Molecular Medicine |
| 2016-present | Ad-Hoc Reviewer, Journal of Biochemical and Molecular Toxicology |
| 2016-present | Ad-Hoc Reviewer, International Journal of Oncology |
| 2016-present | Ad-Hoc Reviewer, International Journal of Molecular Science |
| 2017-present | Ad-Hoc Reviewer, Molecular Immunology |
| 2017-present | Ad-Hoc Reviewer, International Journal of Experimental Pathology |
| 2017-present | Ad-Hoc Reviewer, Vaccines |
| 2017-present | Ad-Hoc Reviewer, Cell Biology International |
| 2018-present | Ad-Hoc Reviewer, Molecules |
| 2018-present | Ad-Hoc Reviewer, Nutrients |
| 2018-present | Ad-Hoc Reviewer, Biomedical Reports |
| 2019-present | Ad-Hoc Reviewer, Cells |
| 2019-present | Ad-Hoc Reviewer, Medicina-Lithuania |
| 2019-present | Ad-Hoc Reviewer, Journal of Clinical Medicine |
| 2019-present | Ad-Hoc Reviewer, Experimental and Therapeutic Medicine |

Other Support:

Completed Research

NIH/NHLBI K99 HL141685

04/15/2018 - 07/31/2019

Title: Lincenc1 regulates the lipopolysaccharide-induced inflammatory response in macrophages

The goal of this project is to investigate the regulation and function of an uncharacterized long non-coding RNA, called Lincenc1 in macrophage in response to infectious stimulation, such as LPS or bacteria.

Role: PI

Invited Lectures and Conference Presentations:

1. Invited Panelists for Postdoc to PI Panel. Harvard Medical School, Boston, MA July 10, 2019.
2. "Thyroid Hormone Regulates Immune Response of Macrophages in Sepsis". American Thoracic Society 2019 International Conference, Dallas TX. May 20, 2019.
3. "Exosomes mediate the crosstalk between epithelial cells and macrophages in pneumonia". Evans Department of Medicine Research Days, Department of Medicine, Boston University, October 11, 2018.
4. "Lung epithelial cell derived exosomes facilitate the propagation of inflammatory". American Thoracic Society 2017 International Conference, Washington, DC. May 22, 2017.
5. "Enrichment of selective miRNAs in exosome and delivery of exosomal miRNAs in vitro and in vivo". American Thoracic Society 2017 International Conference, Washington, DC. May 21, 2017.

6. “MicroRNA expression in microvesicles derived from broncho-alveolar lavage fluid (BALF) indicates potential novel regulators of lipopolysaccharide (LPS) induced acute lung injury”. American Thoracic Society 2017 International Conference, Washington, DC. May 22, 2017.
7. “Lung epithelial cell derived exosomes facilitate the propagation of inflammatory”. Pittsburgh-Munich International Lung Conference, Pittsburgh, PA. October 6, 2016.
8. “MicroRNA array analysis of microvesicles (MVs) derived from broncho-alveolar lavage fluid (BALF) indicates potential novel regulators of lipopolysaccharide (LPS) induced alveolar macrophage activation”. American Thoracic Society 2016 International Conference, San Francisco, CA. May 17, 2016.
9. “MicroRNA-185 mediates lung epithelial cell death after oxidative stress”. American Thoracic Society 2016 International Conference, San Francisco, CA. May 15, 2016.
10. “Thyroid hormone regulates muscle fiber type conversion via mir-133a1”. Annual Postdoctoral Research Symposium, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China. January 14, 2015.
11. “Thyroid hormone regulates muscle fiber type conversion via mir-133a1”. The 1st Postdoctoral Research Symposium, Shanghai Jiao Tong University School of Medicine, Shanghai, China. January 17, 2015.
12. “Attenuation of p38-mediated miR-1/133 expression facilitates myoblast proliferation in regenerating muscles”. The 3rd Graduate Students Symposium, Zhejiang, China. October 20, 2011

Bibliography:

Original, Peer Reviewed Articles:

1. **Zhang D**, Li X, Chen C, Li Y, Zhao L, Jing Y, Liu W, Wang X, Zhang Y, Xia H, Chang Y, Gao X, Yan J, Ying H. Attenuation of p38-mediated miR-1/133 expression facilitates myoblast proliferation during the early stage of muscle regeneration. *PLoS One*. 2012;7(7):e41478. doi: 10.1371/journal.pone.0041478. PubMed PMID: 22911796; PMCID: PMC3404058.
2. Wang YC, Li Y, Wang XY, **Zhang D**, Zhang H, Wu Q, He YQ, Wang JY, Zhang L, Xia H, Yan J, Li X, Ying H. Circulating miR-130b mediates metabolic crosstalk between fat and muscle in overweight/obesity. *Diabetologia*. 2013;56(10):2275-85. doi: 10.1007/s00125-013-2996-8. PubMed PMID: 23868745.
3. Liu W, Cao H, Ye C, Chang C, Lu M, Jing Y, **Zhang D**, Yao X, Duan Z, Xia H, Wang YC, Jiang J, Liu MF, Yan J, Ying H. Hepatic miR-378 targets p110alpha and controls glucose and lipid homeostasis by modulating hepatic insulin signalling. *Nat Commun*. 2014;5:5684. doi: 10.1038/ncomms6684. PubMed PMID: 25471065.
4. **Zhang D**, Wang X, Li Y, Zhao L, Lu M, Yao X, Xia H, Wang YC, Liu MF, Jiang J, Li X, Ying H. Thyroid hormone regulates muscle fiber type conversion via miR-133a1. *J Cell Biol*. 2014;207(6):753-66. doi: 10.1083/jcb.201406068. PubMed PMID: 25512392; PMCID: PMC4274265.
5. Yao X, Hou S, **Zhang D**, Xia H, Wang YC, Jiang J, Yin H, Ying H. Regulation of fatty acid composition and lipid storage by thyroid hormone in mouse liver. *Cell Biosci*. 2014;4:38. doi: 10.1186/2045-3701-4-38. PubMed PMID: 25105012; PMCID: PMC4124172.

6. Li X, Li Y, Zhao L, **Zhang D**, Yao X, Zhang H, Wang YC, Wang XY, Xia H, Yan J, Ying H. Circulating Muscle-specific miRNAs in Duchenne Muscular Dystrophy Patients. *Mol Ther Nucleic Acids*. 2014;3:e177. doi: 10.1038/mtna.2014.29. PubMed PMID: 25050825; PMCID: PMC4121518.
7. Jing Y, Liu W, Cao H, **Zhang D**, Yao X, Zhang S, Xia H, Li D, Wang YC, Yan J, Hui L, Ying H. Hepatic p38alpha regulates gluconeogenesis by suppressing AMPK. *J Hepatol*. 2015;62(6):1319-27. doi: 10.1016/j.jhep.2014.12.032. PubMed PMID: 25595884.
8. Yao X, Sa R, Ye C, **Zhang D**, Zhang S, Xia H, Wang YC, Jiang J, Yin H, Ying H. Effects of thyroid hormone status on metabolic pathways of arachidonic acid in mice and humans: A targeted metabolomic approach. *Prostaglandins Other Lipid Mediat*. 2015;118-119:11-8. doi: 10.1016/j.prostaglandins.2015.03.005. PubMed PMID: 25841349.
9. Lee SJ, Zhang M, Hu K, Lin L, **Zhang D**, Jin Y. CCN1 suppresses pulmonary vascular smooth muscle contraction in response to hypoxia. *Pulm Circ*. 2015;5(4):716-22. doi: 10.1086/683812. PubMed PMID: 26697179; PMCID: PMC4671746.
10. Li Y, **Zhang D**, Wang X, Yao X, Ye C, Zhang S, Wang H, Chang C, Xia H, Wang YC, Fang J, Yan J, Ying H. Hypoxia-inducible miR-182 enhances HIF1alpha signaling via targeting PHD2 and FIH1 in prostate cancer. *Sci Rep*. 2015;5:12495. doi: 10.1038/srep12495. PubMed PMID: 26205124; PMCID: PMC4513346.
11. **Zhang D***, Li Y*, Yao X, Wang H, Zhao L, Jiang H, Yao X, Zhang S, Ye C, Liu W, Cao H, Yu S, Wang YC, Li Q, Jiang J, Liu Y, Zhang L, Liu Y, Iwai N, Wang H, Li J, Li J, Li X, Jin ZB, Ying H. miR-182 Regulates Metabolic Homeostasis by Modulating Glucose Utilization in Muscle. *Cell Rep*. 2016;16(3):757-68. doi: 10.1016/j.celrep.2016.06.040. PubMed PMID: 27396327.
12. Ye C, **Zhang D**, Zhao L, Li Y, Yao X, Wang H, Zhang S, Liu W, Cao H, Yu S, Wang Y, Jiang J, Wang H, Li X, Ying H. CaMKK2 Suppresses Muscle Regeneration through the Inhibition of Myoblast Proliferation and Differentiation. *Int J Mol Sci*. 2016;17(10). doi: 10.3390/ijms17101695. PubMed PMID: 27783047; PMCID: PMC5085727.
13. Lee H*, **Zhang D***, Zhu Z, Dela Cruz CS, Jin Y. Epithelial cell-derived microvesicles activate macrophages and promote inflammation via microvesicle-containing microRNAs. *Sci Rep*. 2016;6:35250. doi: 10.1038/srep35250. PubMed PMID: 27731391; PMCID: PMC5059671.
14. **Zhang D**, Lee H, Cao Y, Dela Cruz CS, Jin Y. miR-185 mediates lung epithelial cell death after oxidative stress. *Am J Physiol Lung Cell Mol Physiol*. 2016;310(7):L700-10. doi: 10.1152/ajplung.00392.2015. PubMed PMID: 26747785; PMCID: PMC4824162.
15. Cao Y, **Zhang D**, Moon HG, Lee H, Haspel JA, Hu K, Xie L, Jin Y. MiR-15a/16 Regulates Apoptosis of Lung Epithelial Cells after Oxidative Stress. *Mol Med*. 2016;22. doi: 10.2119/molmed.2015.00136. PubMed PMID: 27257854; PMCID: PMC5023515.
16. Lee H, **Zhang D**, Wu J, Otterbein LE, Jin Y. Lung Epithelial Cell-Derived Microvesicles Regulate Macrophage Migration via MicroRNA-17/221-Induced Integrin beta1 Recycling. *J Immunol*. 2017;199(4):1453-64. doi: 10.4049/jimmunol.1700165. PubMed PMID: 28674181; PMCID: PMC5561736.
17. **Zhang D**, Lee H, Haspel JA, Jin Y. Long noncoding RNA FOXD3-AS1 regulates oxidative stress-induced apoptosis via sponging microRNA-150. *FASEB J*. 2017;31(10):4472-81. doi: 10.1096/fj.201700091R. PubMed PMID: 28655711; PMCID: PMC5602897.

18. Zhu Z, **Zhang D**, Lee H, Menon AA, Wu J, Hu K, Jin Y. Macrophage-derived apoptotic bodies promote the proliferation of the recipient cells via shuttling microRNA-221/222. *J Leukoc Biol.* 2017;101(6):1349-59. doi: 10.1189/jlb.3A1116-483R. PubMed PMID: 28274991; PMCID: PMC5433853.
19. **Zhang D***, Lee H*, Zhu Z, Minhas JK, Jin Y. Enrichment of selective miRNAs in exosomes and delivery of exosomal miRNAs in vitro and in vivo. *Am J Physiol Lung Cell Mol Physiol.* 2017;312(1):L110-L21. doi: 10.1152/ajplung.00423.2016. PubMed PMID: 27881406; PMCID: PMC5283929.
20. Wang X, Polverino F, Rojas-Quintero J, **Zhang D**, Sanchez J, Yambayev I, Lindqvist E, Virtala R, Djukanovic R, Davies DE, Wilson S, O'Donnell R, Cunoosamy D, Hazon P, Higham A, Singh D, Olsson H, Owen CA. A Disintegrin and A Metalloproteinase-9 (ADAM9): A Novel Proteinase Culprit with Multifarious Contributions to COPD. *Am J Respir Crit Care Med.* 2018. doi: 10.1164/rccm.201711-2300OC. PubMed PMID: 29864380.
21. Polverino F, Rojas-Quintero J, Wang X, Petersen H, Zhang L, Gai X, Higham A, **Zhang D**, Gupta K, Rout A, Yambayev I, Pinto-Plata V, Sholl LM, Cunoosamy D, Celli BR, Goldring J, Singh D, Tesfaigzi Y, Wedzicha J, Olsson H, Owen CA. A Disintegrin and A Metalloproteinase Domain-8 (ADAM8): A Novel Protective Proteinase in COPD. *Am J Respir Crit Care Med.* 2018. doi: 10.1164/rccm.201707-1331OC. PubMed PMID: 29750543.
22. Lee H, **Zhang D**, Laskin DL, Jin Y. Functional Evidence of Pulmonary Extracellular Vesicles in Infectious and Noninfectious Lung Inflammation. *J Immunol.* 2018. doi: 10.4049/jimmunol.1800264. PubMed PMID: 29997122.
23. **Zhang D**, Lee H, Wang X, Rai A, Groot M, Jin Y. Exosome-Mediated Small RNA Delivery: A Novel Therapeutic Approach for Inflammatory Lung Responses. *Mol Ther.* 2018;26(9):2119-30. doi: 10.1016/j.ymthe.2018.06.007. PubMed PMID: 30005869; PMCID: PMC6127502.
24. Li Y, Jiang J, Liu W, Wang H, Zhao L, Liu S, Li P, Zhang S, Sun C, Wu Y, Yu S, Li X, Zhang H, Qian H, **Zhang D**, Guo F, Zhai Q, Ding Q, Wang L, Ying H. microRNA-378 promotes autophagy and inhibits apoptosis in skeletal muscle. *Proc Natl Acad Sci U S A.* 2018. doi: 10.1073/pnas.1803377115. PubMed PMID: 30373812.
25. Wang X, Rojas-Quintero J, Wilder J, Tesfaigzi Y, **Zhang D**, Owen CA. Tissue Inhibitor of Metalloproteinase-1 Promotes Polymorphonuclear Neutrophil (PMN) Pericellular Proteolysis by Anchoring Matrix Metalloproteinase-8 and -9 to PMN Surfaces. *J Immunol.* 2019. doi: 10.4049/jimmunol.1801466. PubMed PMID: 31019060.
26. Lee H, Li C, Zhang Y, **Zhang D**, Otterbein LE, Jin Y. Caveolin-1 selectively regulates microRNA sorting into microvesicles after noxious stimuli. *J Exp Med.* 2019. doi: 10.1084/jem.20182313. PubMed PMID: 31235510.
27. **Zhang D**, Lee H, Wang X, Groot M, Sharma L, Dela Cruz CS, Jin Y. A potential role of microvesicle-containing miR-223/142 in lung inflammation. *Thorax.* 2019. doi: 10.1136/thoraxjnl-2018-212994. PubMed PMID: 31331947.

* Authors contributed equally to the manuscript.

Case Reports, Reviews, Chapters, and Editorials:

Editorials and Critical Reviews:

1. **Zhang D**, Xie L, Jin Y. In situ Detection of MicroRNAs: The Art of MicroRNA Research in Human Diseases. *J Cytol Histol*. 2015;Suppl 3(1). doi: 10.4172/2157-7099.S3-013. PubMed PMID: 28529819; PMCID: PMC5435369.
2. Zhu Z, **Zhang D**, Lee H, Jin Y. Caenorhabditis elegans: An important tool for dissecting microRNA functions. *Biomed Genet Genom*. 2016;1(2):34-6. doi: 10.15761/BGG.1000106. PubMed PMID: 28529981; PMCID: PMC5438092.
3. Lee H, **Zhang D**, Minhas J, Jin Y. Extracellular Vesicles Facilitate the Intercellular Communications in the Pathogenesis of Lung Injury. *Cell Dev Biol*. 2016;5(2). doi: 10.4172/2168-9296.1000175. PubMed PMID: 27722038; PMCID: PMC5053769.
4. **Zhang D**, Lee H, Jin Y. Extracellular Vesicles Research in Lipopolysaccharide-induced Acute Lung Injury Model. *Thorax eLetter*. 2017
5. Lee H, **Zhang D**, Rai A, Jin Y. The Obstacles to Current Extracellular Vesicle-Mediated Drug Delivery Research. *J Pharm Pharm*. 2017;4(2):156-8. doi: 10.15436/2377-1313.17.1331. PubMed PMID: 29355245; PMCID: PMC5771242.
6. **Zhang D**, Li Y, Liu S, Wang YC, Guo F, Zhai Q, Jiang J, Ying H. microRNA and thyroid hormone signaling in cardiac and skeletal muscle. *Cell Biosci*. 2017;7:14. doi: 10.1186/s13578-017-0141-y. PubMed PMID: 28331574; PMCID: PMC5359910.
7. Groot M, **Zhang D**, Jin Y. Long Non-Coding RNA Review and Implications in Lung Diseases. *JSM Bioinformatics, Genomics and Proteomics*. 2018;3(2). Epub 2018 Jun 30. PubMed PMID: 30854513; PubMed Central PMCID: PMC6404970.
8. Lee H, Abston E, **Zhang D**, Rai A, Jin Y. Extracellular Vesicle: An Emerging Mediator of Intercellular Crosstalk in Lung Inflammation and Injury. *Front Immunol*. 2018;9:924. doi: 10.3389/fimmu.2018.00924. PubMed PMID: 29780385; PMCID: PMC5946167.

Complete List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/duo.zhang.2/bibliography/public/>