Duojia (DJ) Pan, Ph.D. July, 2016

Current Appointments:

Howard Hughes Medical Institute
Department of Physiology
University of Texas Southwestern Medical Center
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Research Statement:

I have a long-standing interest in understanding the molecular mechanisms underlying growth control and tissue homeostasis. My laboratory tackles this question using a combination of *Drosophila* and mouse genetics, biochemistry, cell and chemical biology approaches. Our research has elucidated the molecular function of the Tsc1 and Tsc2 tumor suppressor genes, linking Tsc1/Tsc2 to Rheb and TOR signaling. This work provided the key molecular insight for the use of mTOR inhibitors in the treatment of Tuberous Sclerosis. Most significantly, my laboratory has discovered and characterized a novel signal transduction pathway, the Hippo pathway, which controls organ size in all animals. Using *Drosophila* as a model, we made a series of discoveries that allowed us to decode, in a stepwise manner, the key molecular events in the Hippo pathway. Our research further established a critical role for the Hippo pathway in controlling mammalian organ size, regeneration and tumorigenesis. Our current efforts are aimed at understanding the composition, mechanism and regulation of the Hippo pathway, elucidating its physiological roles in normal development and diseases, and discovery of chemical probes targeting the Hippo pathway.

Education and Training:

1984-1988	B.S. Honors Biochemistry, Peking University
1988-1989	China-United States Biochemistry Examination and Application (CUSBEA) Program
1989-1993	Ph.D. in Biological Chemistry, UCLA School of Medicine (advisor: Albert Courey)
1993-1998	Postdoctoral Fellowship, UC Berkeley (advisor: Gerald Rubin)

Professional Experience:

1998-2004	Assistant Professor of Physiology, UT Southwestern Medical Center
2004-2004	Associate Professor of Physiology, UT Southwestern Medical Center
2004-2009	Associate Professor of Molecular Biology & Genetics, Johns Hopkins University School of Medicine
2008-	Investigator, Howard Hughes Medical Institute
2009-2016	Professor of Molecular Biology & Genetics, Johns Hopkins University School of Medicine
2016-	Professor and Chairman, Department of Physiology, UT Southwestern Medical Center

Professional memberships:

Genetics Society of America
American Association for the Advancement of Science

Awards and Recognition:

1988-1989	China-United States Biochemistry Examination and Application (CUSBEA) Scholarship
1993-1996	Postdoctoral Fellowship of the Jane Coffin Childs Memorial Fund for Medical Research
1998-2004	Endowed Scholars in Medical Science, UT Southwestern
2001-2005	American Heart Association National Scientist Development Award

2003-2006 American Cancer Society Research Scholar
2006-2008 Leukemia & Lymphoma Society Scholar
2012 Fellow, American Association for the Advancement of Science
2013 Paul Marks Prize for Cancer Research
2016- The Fouad A. and Val Imm Bashour Distinguished Chair in Physiology

Advisory and Editorial Board:

2004- 2010 Tuberous Sclerosis Alliance, International Scientific Advisory Board
2006- "Faculty of 1000" member
2010- Advisory Committee, Johns Hopkins Polycystic Kidney Research Center
2010 Advisory Committee, Harvard Hamartoma Research Center
2012-2014 Elections committee, Fly Board
2012- *eLife*, Board of Reviewing Editors
2015- Member, American Cancer Society Council for Extramural Grants
2016 co-organizer, Keystone symposium "Molecular and Cellular Basis of Growth and Regeneration"

Patents:

1. "New KUZ polypeptides, members of the ADAM family of metalloprotease - useful in neural partitioning and development"
   Patent Numbers: WO9808933-A; EP963432-A; WO9808933-A1; AU9741649-A; US5935792-A; EP963432-A1; AU723836-B; JP2000517185-W; US6190876-B1; US6319704-B1; US6399350-B1; US2002127621-A1; CA2263883-C
2. "Modulating angiogenesis in a vertebrate animal involves specifically modulating the activity of Drosophila Kuzbanian in the animal"
   Patent Numbers: WO200234289-A; WO200234289-A1; AU200220098-A; US6436629-B1; US2002132778-A1; EP1333856-A1; JP2004522702-W; US6872750-B2; AU2002220098-B2; US2005171024-A1
3. "A Tumor Suppressor Designated Hippo"
   Patent Number 7556942

Invited presentations (since 2010):

<u>Keynote and named lectures</u>

Keynote speaker, Texas A&M Health Science Center Research Day Symposium, 2010
Keynote Speaker, the Sixth Biannual London Fly Meeting, 2013
Distinguished Lecture, Fox Chase Cancer Center, 2014
Distinguished Lecture, Genomics Institute of the Novartis Research Foundation, 2014
Keynote speaker, the 4th Chinese conference on Hippo signaling, 2014
Danny Thomas Lecture, St. Jude Children's Research Hospital, 2015
Dean's lecture, Johns Hopkins School of Medicine, 2015
Keynote speaker, Keystone Symposium on Hippo signaling, 2015
University Lecture, UT Southwestern Medical Center, 2016

<u>Other lectures</u>

Shands Cancer Center, University of Florida, Gainesville, 2010
"Cell cycle and development" Symposium, Kyoto, Japan, 2010
Eppley Cancer Center, University of Nebraska Medical Center, Omaha, 2010
Plenary speaker, 51st Annual *Drosophila* Research Conference, 2010
Department of Pharmacology, Johns Hopkins School of Medicine, 2010
Skirball Institute for Biomolecular Medicine, New York University, 2010
Annual Neurofibromatosis Conference, 2010

Spanish National Cancer Center (CNIO), Spain, 2010
25th Aspen Cancer Conference, Aspen, Colorado, 2010
National Institute of Biological Sciences, China, 2010
Hippo Signaling Workshop, Rome, Italy, 2010
Department of Cell Biology and Physiology, University of Pittsburgh, 2010
Institute of Biological Chemistry, Academic Sinica, Taiwan, 2011
School of Medicine, National Taiwan University, Taiwan, 2011
National Health Research Institute, Taiwan, 2011
Department of Pharmacology, University of California, San Diego, 2011
Center for Stem Cell Biology and Regenerative Medicine, University of Maryland, 2011
Annual Neurofibromatosis Conference, 2011
CBI Society Symposium, China, 2011
Department of Molecular, Cellular and Developmental Biology, Univ. of Michigan, 2011
AACR Special Conference on Metabolism and Cancer, 2011
RIKEN Center for Developmental Biology, Japan, 2011
Institute of Genetic Medicine, Johns Hopkins University, 2012
Cancer Center, Duke University Medical Center, 2012
Division of Human Biology, Fred Hutchinson Cancer Research Center, 2012
Department of Molecular Sciences, Northwestern University, 2012
Annual Neurofibromatosis Conference, 2012
Gordon Conference on Visual System Development, 2012
Department of Medicine, University of Pennsylvania, 2012
School of Life Sciences, Nankai University, China, 2012
Lombardi Cancer Center, Georgetown University Medical Center, 2013
MGH/Harvard Cutaneous Biology Research Center, 2013
Department of Molecular Biology and Genetics, Cornell University, 2013
British Societies for Cell Biology and Developmental Biology Joint Meeting, 2013
Keystone Symposium on Hippo signaling, 2013
Annual Neurofibromatosis Conference, 2013
Genentech Research Seminar, San Francisco, 2013
Third AACR International Conference on Frontiers in Basic Cancer Research, 2013
Plenary Speaker, CBI Society Symposium, Mexico, 2013
Memorial Sloan-Kettering Cancer Research Center, 2013
Department of Biochemistry and Molecular Pharmacology, NYU School of Medicine, 2014
MGH/Department of Molecular Biology, 2014
Cancer Colloquium XII, St. Andrews University, Scotland, 2014
The Wellcome Trust Sanger Institute, United Kingdom, 2014
Rutgers / The Cancer Institute of New Jersey, 2014
AACR annual meeting, 2014
Annual Neurofibromatosis Conference, 2014
Santa Cruz Developmental Biology Meeting, 2014
Department of Biochemistry & Molecular Biology, Johns Hopkins School of Public Health, 2014
Cell Biology at the Leading Edge, UT Southwestern Medical Center, 2015
Department of Radiation Oncology, MD Anderson Cancer Center, 2015
Department of Oncological Sciences, Mount Sinai School of Medicine, 2015
Lunenfeld-Tanenbaum Research Institute, University of Toronto, 2015
Abcam Symposium of Cell Signaling in Development and Diseases, 2015
Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences, 2015
Institute of Molecular and Cell Biology, A*STAR, Singapore, 2015
Bayer Healthcare, Berlin, Germany, 2015
Spanish National Cardiovascular Research Center, 2015

The American Society of Human Genetics Annual Meeting, 2015
School of Life Sciences, Peking University, China, 2015
Department of Medicine, University of Pennsylvania, 2015
Keystone symposium "Molecular and Cellular Basis of Growth and Regeneration", 2016
Department of Biochemistry, University of Washington, 2016
Indiana University Simon Cancer Center, 2016
RIKEN Center for Developmental Biology, Japan, 2016
Department of Molecular Genetics, Osaka University, 2016
Department of Genetics and Development, Columbia University, 2016
AACR Annual meeting, 2016
Plenary speaker, The International Society for Stem Cell Research annual meeting, 2016
Plenary speaker, 57th Annual *Drosophila* Research Conference, 2016
Molecular & Developmental Biology, Cincinnati Children's Hospital Medical Center, 2016

Primary research articles:

1. **Pan, D.**, J.D. Huang, and A.J. Courey. (1991) Functional analysis of the Drosophila *twist* promoter reveals a *dorsal*-binding ventral activator region. *Genes Dev.* 5: 1892-1901.
2. **Pan, D.** and A.J. Courey. (1992) The same *dorsal* binding site mediates both activation and repression in a context-dependent manner. *EMBO J.* 11: 1837-1842.
3. **Pan, D.**, S.A. Valentine, and A.J. Courey. (1994) The bipartite *D. melanogaster twist* promoter is reorganized in *D. virilis*. *Mech. Dev.* 46: 41-53.
4. **Pan, D.** and G.M. Rubin. (1995) cAMP-dependent protein kinase and *hedgehog* act antagonistically in regulating *decapentaplegic* transcription in *Drosophila* imaginal discs. *Cell* 80: 543-552.
5. Rooke, J., **D. Pan**, T. Xu, and G.M. Rubin. (1996) KUZ, a conserved metalloprotease-disintegrin protein with two roles in *Drosophila* neurogenesis. *Science* 273: 1227-1231.
6. Fambrough, D., **D. Pan**, G.M. Rubin, and C.S. Goodman. (1996) The cell surface metalloprotease/disintegrin Kuzbanian is required for axonal extension in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 93: 13233-13238.
7. **Pan, D.** and G.M. Rubin. (1997) Kuzbanian controls proteolytic processing of Notch and mediates lateral inhibition during *Drosophila* and vertebrate neurogenesis. *Cell* 90: 271-280.
8. **Pan, D.** and G.M. Rubin. (1998) Targeted expression of *teashirt* induces ectopic eyes in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 95: 15508-15512.
9. Mumm, J., E.H. Schroeter, M.T. Saxena, X. Tian, A. Griesemer, **D. Pan**, W.J. Ray, and R. Kopan. (2000) Ligand induced "ectodomain shedding" regulates gamma-secretase-like proteolytic activation of Notch1. *Mol. Cell* 5, 197-206.
10. Gao, X., T. P. Neufeld, and **D. Pan.** (2000) Drosophila PTEN regulates cell growth and proliferation through PI3K-dependent and -independent pathways. *Dev. Biol.* 221, 404-418.
11. Gao, X. and **D. Pan.** (2001) TSC1 and TSC2 tumor suppressors antagonize insulin signaling in cell growth. *Genes Dev.* 15: 1383-1392.
12. Gao, X., Y. Zhang, P. Arrazola, O. Hino, T. Kobayashi, R. S. Yeung, B. Ru and **D. Pan.** (2002) Tsc tumor suppressor proteins antagonize amino-acid-TOR signaling. *Nature Cell Biol.* 4: 699-704.
13. Zhang, Y., Gao, X., Saucedo, L.J., Ru, B., Edgar, B.A., and **Pan, D.** (2003) Rheb is a direct target of the tuberous sclerosis tumor suppressor proteins. *Nature Cell Biol.* 5, 578-581.
14. Saucedo, L.J., Gao, X., Chiarelli, D.A., Li, L., **Pan, D.**, and Edgar, B.A. (2003) Rheb promotes cell growth as a component of the insulin/TOR signaling network. *Nature Cell Biol.* 5, 566-571.
15. Wu, S., Huang, J., Dong, J., **Pan, D**. (2003) *hippo* encodes a Ste-20 family protein kinase that restricts cell proliferation and promotes apoptosis in conjunction with *salvador* and *warts*. *Cell* 114, 445-456.
16. Dong, J. and **D. Pan**. (2004) Tsc2 is not a critical target of Akt during normal *Drosophila* development. *Genes Dev.* 18: 2479-2484.

17. Cygnar, K.D., Gao, X., **Pan, D.**, and Neufeld, T. (2005) The phosphatase subunit Tap42 functions independently of TOR to regulate cell division and survival in *Drosophila*. *Genetics* 170, 733-740.
18. Huang, J., Wu, S., Barrera, J., Matthews, K., and **Pan, D.** (2005) The Hippo signaling pathway coordinately regulates cell proliferation and apoptosis by inactivating Yorkie, the *Drosophila* homologue of YAP. *Cell* 122, 421-434.
19. Zhang, Y., Billington, C.J. Jr., **Pan, D.**, and Neufeld, T.P. (2006) *Drosophila* Target of Rapamycin Kinase Functions as a Multimer. *Genetics* 172, 355-362.
20. Dong, J., Feldman, G., Huang, J., Wu, S., Zhang, N., Comerford, S. A., Gayyed, M. F., Anders, R. A., Maitra, A., and **Pan, D.** (2007) Elucidation of a universal size-control mechanism in *Drosophila* and mammals. *Cell* 130, 1120-1133.
21. Lam-Himlin, D.M., Daniels, J.A., Gayyed, M.F., Dong, J., Maitra, A., **Pan, D.**, Montgomery, E.A., Anders, R.A. (2007) The hippo pathway in human upper gastrointestinal dysplasia and carcinoma: a novel oncogenic pathway. *Int J Gastrointest Cancer* 37, 103-9
22. Wu, S., Liu, Y., Zheng, Y., Dong, J., and **Pan, D.** (2008) The TEAD/TEF family protein Scalloped mediates transcriptional output of the Hippo growth-regulatory pathway. *Dev. Cell*, 14, 388-98.
23. Steinhardt, A.A , Gayyed, M.F., Klein, A.P., Dong, J., Maitra, A., **Pan, D.**, Montgomery, E.A., A. Anders, R.A. (2008) Expression of Yes-Associated Protein, YAP, in Common Solid Tumors. *Human Pathology* 39, 1582-1589.
24. Alarcón, C., Zaromytidou, A.I., Xi, Q., Gao, S., Yu, J., Fujisawa, S., Barlas, A., Miller, A.N., Manova-Todorova, K., Macias, M.J., Sapkota, G., **Pan, D.**, and Massagué, J. (2009) CDK8/9 drive Smad transcriptional action, turnover, and YAP interactions in BMP and TGFβ pathways. *Cell*, 139: 757-769.
25. Yu, J., Zheng, Y., Dong, J., Klusza, S., Deng, W-M., and **Pan, D.** (2010) Kibra functions as a tumor suppressor protein that regulates Hippo signaling in conjunction with Merlin and Expanded. *Dev. Cell*, 18: 288-99.
26. Tian W, Yu J, Tomchick D, **Pan D***, Luo X* (2010). Structural and functional analysis of the YAP-binding domain of human TEAD2. *Proc. Natl. Acad. Sci. USA*, 107: 7293-7298. * co-corresponding author.
27. Ling, C., Zheng, Y., Yin, F., Yu, J., Huang, J., Hong, Y., Wu, S., and **Pan, D.** (2010) The apical transmembrane protein Crumbs functions as a tumor suppressor that regulates Hippo signaling by binding to Expanded. *Proc. Natl. Acad. Sci. USA*, 107: 10532-10537.
28. Zhang, N., Bai, H., David, K.K., Dong, J., Zheng Y., Cai, J., Giovannini, M., Liu, P., Anders, A.A., and **Pan, D.** (2010) The Merlin/NF2 tumor suppressor functions through the YAP oncoprotein to regulate tissue homeostasis in mammals. *Dev. Cell*, 19: 27-38.
29. Cai, J., Zhang, N., Zheng, Y., de Wilde, R.F., Maitra, A., and **Pan, D.** (2010) The Hippo signaling pathway restricts the oncogenic potential of an intestinal regeneration program. *Genes Dev.*, 24: 2383-2388.
30. Bai,H., Gayyed,M.F., Lam-Himlin,D.M., Klein,A.P., Nayar,S.K., Xu,Y., Khan,M., Argani,P., **Pan,D.**, and Anders,R.A. (2012) Expression of Yes-associated protein modulates Survivin expression in primary liver malignancies. *Hum. Pathol.* 43: 1376-1385.
31. Sebé-Pedrós, A., Zheng, Y., Ruiz-Trillo, I., and **Pan, D.** (2012) Premetazoan origin of the Hippo signaling pathway. *Cell Reports*, 1: 13-20.
32. Bai,H., Zhang,N., Xu,Y., Chen,Q., Khan,M., Potter,J.J., Nayar,S.K., Cornish,T., Alpini,G., Bronk,S., **Pan,D.**, and Anders,R.A. (2012) Yes-associated protein regulates the hepatic response after bile duct ligation. *Hepatology*, 56: 1097-1107.
33. Liu-Chittenden, Y., Huang, B., Shim J.S., Chen, Q., Lee, S-J, Anders, R.A., Liu, J.O. and **Pan, D.** (2012) Genetic and pharmacological disruption of the TEAD-YAP complex suppresses the oncogenic activity of YAP. *Genes Dev.*, 26: 1300-1305.

34. Del Re,D.P., Yang,Y., Nakano,N., Cho,J., Zhai,P., Yamamoto,T., Zhang,N., Yabuta,N., Nojima,H., **Pan,D.**, and Sadoshima,J. (2013) Yes-associated protein isoform 1 (Yap1) promotes cardiomyocyte survival and growth to protect against myocardial ischemic injury. *J. Biol. Chem.* 288: 3977-3988.
35. Bossuyt,W., Chen,C.L., Chen,Q., Sudol,M., McNeill,H., **Pan,D.**, Kopp,A., and Halder,G. (2013) An evolutionary shift in the regulation of the Hippo pathway between mice and flies. *Oncogene*. Epub ahead of print on 4/8/2013, doi: 10.1038/onc.2013.82
36. Koontz, L.M., Liu-Chittenden Y., Yin, F., Zheng, Z., Yu, J., Huang, B., Chen, Q., and **Pan, D.** (2013) The Hippo effector Yorkie controls normal tissue growth by antagonizing scalloped-mediated default repression. *Dev. Cell*, 25: 388-401.
37. Yu,F.X., Zhang,Y., Park,H.W., Jewell,J.L., Chen,Q., Deng,Y., **Pan,D.**, Taylor,S.S., Lai,Z.C., and Guan,K.L. (2013) Protein kinase A activates the Hippo pathway to modulate cell proliferation and differentiation. *Genes Dev.*, 27: 1223-1232.
38. Ni, L., Li, S., Yu, J., Min, J., Brautigam, C.A., Tomchick, D.R., **Pan, D.**, and Luo, X. (2013) Structural basis for autoactivation of human Mst2 kinase and its regulation by RASSF5. *Structure*, 21: 1757-1768.
39. Yin, F., Yu, J., Zheng, Y., Chen, Q., Zhang, N., and **Pan, D.** (2013) Spatial organization of Hippo signaling at the plasma membrane mediated by the tumor suppressor Merlin/NF2. *Cell*, 154: 1342-1355.
40. Shao, D., Zhai, P., Del Re, D., Sciarretta, S., Yabuta, N., Nojima, H., Lim, D-S., **Pan, D.**, and Sadoshima, J. (2014) A Functional Interaction between Hippo-YAP Signaling and FoxO1 Mediates the Oxidative Stress Response. *Nat. Commun.*, 5: 3315.
41. Gurda, G.T., Zhu, Q., Bai, H., Devadason, A., **Pan, D.**, Schwarz, K., and Anders, R.A. (2014) The utility of Yes-associated protein (YAP) expression in the diagnosis of persistent neonatal cholestatic liver disease. *Hum. Pathol*., 45:1057-1064.
42. Chen, Q., Zhang, N., Gray, R.S., Li, H., Ewald, A.J., Zahnow, C.A., and **Pan, D.** (2014) A temporal requirement for Hippo signaling in mammary gland differentiation, growth, and tumorigenesis. *Genes Dev.*, 28: 432-437.
43. Qing, Y., Yin, F., Wang, W., Zheng, Y., Guo, P., Schozer, F., Deng, H., and **Pan, D.** (2014) The Hippo effector Yorkie activates transcription by interacting with a histone methyltransferase complex through Ncoa6. *eLife*, Jul 15:e02564. doi: 10.7554/eLife.02564.
44. Alder, O., Cullum, R., Lee, S., Kan, A.C., Wei, W., Yi, Y., Garside, V.C., Bilenky, M., Griffith, M., Morrissy, A.S., Robertson, G.A., Thiessen, N., Zhao, Y., Chen, Q., **Pan, D.**, Jones, S.J., Marra, M.A., and Hoodless, P.A. (2014) Hippo signaling influences HNF4A and FOXA2 enhancer switching during hepatocyte differentiation. *Cell Reports*, 9: 261-271.
45. Deng, H., Wang, W., Yu, J., Zheng, Y., Qing, Y., and Pan, D. (2015) Spectrin regulates Hippo signaling by modulating cortical actomyosin activity. *eLife*, Mar 31:e06567. doi: 10.7554/eLife.06567.
46. Chen, Q., Zhang, N., Xie, R., Wang, W., Cai, J., Choi, K.S., David, K.K., Huang, B., Yabuta, N., Nojima, H., and **Pan, D.** (2015) Homeostatic control of Hippo signaling activity revealed by an endogenous activating mutation in YAP. *Genes Dev.*, 29: 1285-1297.
47. Moroishi, T., Park, H.W., Qin, B., Chen, Q., Meng, Z., Plouffe, S.W., Taniguchi, K., Yu, F.X., Karin, M., **Pan, D.**, and Guan, K.L. (2015) A YAP/TAZ-induced feedback mechanism regulates Hippo pathway homeostasis. *Genes Dev.*, 29: 1271-1284.
48. Ni, L., Zheng, Y., Hara, M., **Pan, D.** and Luo, X. (2015) Structural basis for Mob1-dependent activation of the core Mst-Lats kinase cascade in Hippo signaling. *Genes Dev.*, 29: 1416-1431.
49. Cai, J., Maitra, A., Anders, R.A., Taketo, M.M., and **Pan, D.** (2015) beta-Catenin destruction complex-independent regulation of Hippo-YAP signaling by APC in intestinal tumorigenesis. *Genes Dev.*, 29: 1493-1506.
50. Zheng, Y., Wang, W., Liu, B., Deng, H., Uster, E., and **Pan, D.** (2015) Identification of Happyhour/MAP4K as alternative Hpo/Mst-like kinases in the Hippo kinase cascade. *Dev. Cell*, 34: 642-655.
51. Liu, B., Zheng, Y., Yin, F., Yu, J., Silverman, N., and **Pan, D.** (2016) Toll receptor-mediated Hippo signaling controls innate immunity in *Drosophila*. *Cell*, 164: 406-419.

52. YAP nuclear localization in the absence of cell-cell contact is mediated by a filamentous actin-dependent, myosin II- and phospho-YAP-independent pathway during extracellular matrix mechanosensing (2016). *J. Biol. Chem.*, 291: 6096-6110.
53. Merino, V., Nguyen, N., Jin, K., Sadik, H., Cho, S., Korangath, P., Han, L., Foster, Y., Zhou, X., Zhang, Z., Connolly, R., Stearns, V., Ali, S., Adams, C., Chen, Q., **Pan, D.**, Huso, D., Ordentlich, P., Brodie, A., and Sukumar, S. (2016) Combined treatment with epigenetic, differentiating, and chemotherapeutic agents cooperatively targets tumor-initiating cells in triple negative breast cancer. *Cancer Research*, Epub ahead of print.
54. Chan, P., Han, X., Zheng, B., DeRan, M., Yu, J., Jarugumilli, G.K., Deng, H., **Pan, D.**, Luo, X. and Wu, X. (2016) Autopalmitoylation of TEAD proteins regulates transcriptional output of the Hippo pathway. *Nature Chem. Biol*, 12: 282-289.
55. Bai, H., Zhu, Q., Surcel, A., Luo, T., Ren, Y., Guan, B., Liu, Y., Wu, N., Joseph, N.E., Wang, T.L., Zhang, N., **Pan, D.**, Alpini, G., Robinson, D.N., and Anders, R.A. (2016) Yes-associated protein impacts adherens junction assembly through regulating actin cytoskeleton organization. *Am. J. Physiol. Gastointest Liver Physiol.* 2016 May 26:ajpgi.00027.2016. doi: 10.1152/ajpgi.00027.2016. [Epub ahead of print].
56. Matsuda, T., Zhai, P., Sciarretta, S., Zhang, Y., Jeong, J.I., Ikeda, S., Park, J.Y., Hsu, C.P., **Pan, D**., Sadoshima, J., and Del Re, D.P. (2016) NF2 activates Hippo signaling and promotes ischemia/reperfusion injury in heart. *Circ. Res.* 2016 Jul 11. pii: CIRCRESAHA.116.308586. [Epub ahead of print]

Review articles and book chapters:

1. **Pan, D.** (2004) Antagonists of the TOR pathway in animal cells. In *Nutrient-induced Responses in Eukaryotic cells*, J.G. Winderickx and P.M. Taylor, eds. (Berlin Heidelberg: Springer-Verlag), pp. 65-78.
2. **Pan, D.** (2004) Size matters. Arolla workshop on growth control in development and disease. *EMBO Report* 5, 136-139.
3. **Pan, D.**, Dong J., Zhang, Y., Gao X. (2004) Tuberous sclerosis complex: from *Drosophila* to human disease. *Trends in Cell Biology* 14, 78-85.
4. Yin, F. and **Pan, D.** (2007) Fat flies expanded the hippo pathway: a matter of size control. *Science STKE* 2007, pe12.
5. **Pan, D.** (2007) Hippo signaling in organ size control. *Genes Dev.* 21: 886-897.
6. **Pan, D.** (2008) Control of tissue growth – elucidation of the Hippo signaling pathway. In *Legacy of Drosophila Genetics*, E. Bier, ed., Henry Stewart Talks (London, U.K.).
7. **Pan, D.** (2010) Animal model of TSC, insights from *Drosophila*. In *Tuberous Sclerosis Complex: from genes to therapeutics*. D. Kwiatkowski, E.A. Thiele, and V.H. Whittemore, eds. (Weinheim: Wiley-VCH).
8. **Pan, D.** (2010) The Hippo signaling pathway in development and cancer. *Dev. Cell*, 19: 491-505.
9. **Pan, D.** (2015) YAPing Hippo forecasts a new target for lung cancer prevention and treatment. *J. Clin. Oncol*., 33:2311-3.

Current Funding:

R01 EY015708, Pan (PI) 09/01/2014 – 08/31/2019
NIH/National Eye Institute $250,000 DC/year
"Control of Cell Number in Developing Retina"

R01 DK098424, Pan (PI) 02/01/2014-01/31/2017
NIH/NIDDK $217,500 DC/year
"Chemical probes targeting nuclear effector complex of the Hippo signaling pathway"

NF130090, Pan (PI) 05/01/2014 - 04/30/2017
Department of Defense $175,000 DC/year
"Developing Molecular Targeted Therapies against NF2"

PR130920, Pan (PI) 09/15/2014 - 09/14/2017
Department of Defense $250,000 DC/year
"Hippo Signaling in Polycystic Kidney Disease"

HHMI Investigator, Pan (PI) 07/01/2008 – 08/31/2018
Howard Hughes Medical Institute $705,000 DC/year
"Control of organ size and tumorigenesis by the Hippo signaling pathway"