

Curriculum Vitae

Zhipeng Meng, Ph.D.

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EDUCATION

- Ph.D. Sep, 2006 – Sep, 2012
City of Hope Graduate School of Biological Sciences. Duarte, California
 - B.S. Sep, 2002 – Jul, 2006
School of Life Sciences, University of Science & Technology of China. Hefei, Anhui, China
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RESEARCH EXPERIENCES

Assistant Professor (Jan 2020 – present) in the Department of Molecular and Cellular Pharmacology, Miller School of Medicine, **University of Miami**.

The long term goal of my laboratory is to elucidate the molecular mechanisms by which tissue growth and homeostasis is controlled in the development and regeneration, and the dysregulation of this process leads to cancer initiation and progression. For more information, please see <https://www.menglaboratory.com>

Post-doctoral fellow (July 2013 – Dec 2019) in Dr. Kun-Liang Guan's group at **University of California, San Diego**.

- Used engineered cell culture substrates to identify the mechano-sensitive signaling pathways that respond to extracellular matrix stiffness.
- Using genome-wide CRISPR screening and small GTPase screening to identify the mechano-sensors that control cell growth.
- Used kinase library screening to identify the key kinases that activate the Hippo pathway core kinase cascade, which plays a central role in organ size control and tissue homeostasis.

Post-doctoral fellow (October 2012 – July 2013) and **Graduate student** (October 2007 – Sep 2012) in Dr. Wendong Huang's group at Beckman Research Institute of **City of Hope National Medical Center**.

- Used animal models and molecular approaches to study liver regeneration, repair, tumorigenesis.
 - Established animal models to test therapeutic compounds for liver injury and cancer.
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HONORS AND AWARDS

- 2018 The CRAVAT Foundation Junior Faculty Fellowship
 - 2011 City of Hope Irell & Manella Graduate School of Biological Sciences Travel Award
 - 2010 The Annual COH Poster Session First Place Prize
 - 2010 Rachmiel Levine Scientific Communication Award
 - 2009 City of Hope Outstanding RSO Advance Presentation Award
 - 2008 City of Hope Graduate School of Biological Sciences Travel Award
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PUBLICATIONS

2020-

Koo JH, Plouffe SW, **Meng Z**, Lee DH, Yang D, Lim DS, Wang CY, Guan KL. Induction of AP-1 by YAP/TAZ contributes to cell proliferation and organ growth. *Genes Dev.* 2020 Jan 1; 34: 72-86. doi: 10.1101/gad.331546.119.

2019-

Chen R, Xie R, **Meng Z**, Ma S, Guan KL. STRIPAK integrates upstream signals to initiate the Hippo kinase cascade. *Nat Cell Biol.* 2019 Dec;21(12):1565-1577. doi: 10.1038/s41556-019-0426-y

Ma S, **Meng Z**, Chen R, Guan KL. The Hippo Pathway: Biology and Pathophysiology. *Annu Rev Biochem.* 2019 Jun 20;88:577-604. doi: 10.1146/annurev-biochem-013118-111829.

2018-

Meng Z, Qiu Y, Lin KC, Kumar A, Placone JK, Fang C, Wang K-C, Lu S, Hong AW, Pan W, Moroishi T, Luo M, Plouffe SW, Diao Y, Ye Z, Park HW, Wang X, Yu F-X, Chien S, Wang C-Y, Ren B, Engler AJ, Guan KL. RAP2 Mediates Mechano-responses of Hippo pathway. *Nature.* 2018 Aug;560(7720):655-660. doi: 10.1038/s41586-018-0444-0.

Lin KC, Moroishi T, **Meng Z**, Jeong HS, Plouffe SW, Sekido Y, Han J, Park HW, Guan KL. Regulation of Hippo pathway transcription factor TEAD by p38 MAPK-induced cytoplasmic translocation. *Nat Cell Biol.* 2018 Sep;20(9):1098. doi: 10.1038/ncb3581.

2017-

Diao Y, Fang R, Li B, **Meng Z**, Yu J, Qiu Y, Lin KC, Huang H, Liu T, Marina RJ, Jung I, Shen Y, Guan KL, Ren B. A tiling-deletion-based genetic screen for cis-regulatory element identification in mammalian cells. *Nat Methods.* 2017 Apr 17. doi: 10.1038/nmeth.4264.

Ma X, **Meng Z**, Jin L, Xiao Z, Wang X, Tsark WM, Ding L, Gu Y, Zhang J, Kim B, He M, Gan X, Shively JE, Yu H, Xu R, Huang W. CAMK2 γ in intestinal epithelial cells modulates colitis-associated colorectal carcinogenesis via enhancing STAT3 activation. *Oncogene.* 2017 Mar 20. doi: 10.1038/onc.2017.16.

Hong AW, **Meng Z**, Yuan HX, Plouffe SW, Moon S, Kim W, Jho EH, Guan KL. Osmotic stress-induced phosphorylation by NLK at Ser128 activates YAP. *EMBO Rep.* 2017 Jan;18(1):72-86. doi: 10.15252/embr.201642681.

2016-

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Plouffe SW, **Meng Z**, Lin KC, Lin B, Hong AW, Chun JV, Guan KL. Characterization of Hippo Pathway Components by Gene Inactivation. *Mol Cell*. 2016 Dec 1;64(5):993-1008. doi: 10.1016/j.molcel.2016.10.034.

Meng Z, Ma X, Du J, Wang X, He M, Gu Y, Zhang J, Han W, Fang Z, Gan X, Van Ness C, Fu X, Schones DE, Xu R, Huang W. CAMK2 γ antagonizes mTORC1 activation during hepatocarcinogenesis. *Oncogene*. 2016 Nov 7. doi: 10.1038/onc.2016.400.

Feng X, Liu P, Zhou X, Li MT, Li FL, Wang Z, **Meng Z**, Sun YP, Yu Y, Xiong Y, Yuan HX, Guan KL. Thromboxane A2 Activates YAP/TAZ to Induce Vascular Smooth Muscle Cell Proliferation and Migration. *J Biol Chem*. 2016 Jul 5. pii: jbc.M116.739722

Meng Z, Moroishi T, Guan KL. Mechanisms of Hippo pathway regulation. *Genes Dev*. 2016 Jan 1;30(1):1-17. doi: 10.1101/gad.274027.115. Review.

2015-

Meng Z, Moroishi T, Mottier-Pavie V., Plouffe SW, Hansen CG, Hong AW, Park HW, Mo JS, Lu W, Lu S, Flores F, Yu FX, Halder G, Guan KL. MAP4K Family Kinases Act in Parallel to MST1/2 to Activate LATS1/2 in the Hippo Pathway. *Nat Commun*. 2015 Oct 5;6:8357. doi: 10.1038/ncomms9357.

Mo JS, **Meng Z**, Kim YC, Park HW, Kim S, Guan KL. AMPK mediates cellular energy stress to regulate YAP and the Hippo pathway. *Nat Cell Biol*. 2015 Apr;17(4):500-10.

Park HW, Kim YC, Yu B, Moroishi T, Mo JS, Plouffe SW, **Meng Z**, Lin KC, Yu FX, Alexander CM, Wang CY, Guan KL. Alternative Wnt Signaling Activates YAP/TAZ. *Cell*. 2015 Aug 13;162(4):780-94. doi: 10.1016/j.cell.2015.07.013.

Moroishi T, Park HW, Qin B, Chen Q, **Meng Z**, Plouffe SW, Taniguchi K, Yu FX, Karin M, Pan D, Guan KL. A YAP/TAZ-induced feedback mechanism regulates Hippo pathway homeostasis. *Genes Dev*. 2015 Jun 15;29(12):1271-84. doi: 10.1101/gad.262816.115.

Fu X, Dong B, Tian Y, Lefebvre P, **Meng Z**, Wang X, Pattou F, Han W, Wang X, Lou F, Jove R, Staels B, Moore DD, Huang W. MicroRNA-26a regulates insulin sensitivity and metabolism of glucose and lipids. *J Clin Invest*. 2015 Jun;125(6):2497-509. doi: 10.1172/JCI75438. Epub 2015 May 11.

Gu Y, Zhou H, Gan Y, Zhang J, Chen J, Gan X, Li H, Zheng W, **Meng Z**, Ma X, Wang X, Xu X, Xu G, Lu X, Liang Y, Zhang X, Lu X, Huang W, Xu R. Small-molecule induction of phospho-eIF4E sumoylation and degradation via targeting its phosphorylated serine 209 residue. *Oncotarget*. 2015 Jun 20;6(17):15111-21.

Han W, Fu X, Xie J, **Meng Z**, Gu Y, Wang X, Li L, Pan H, Huang W. miR-26a enhances autophagy to protect against ethanol-induced acute liver injury. *J Mol Med* 2015 Apr 17.

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Yu FX, **Meng Z**, Plouffe SW, Guan KL. Hippo pathway regulation of gastrointestinal tissues. *Annu Rev Physiol*. 2015 Feb 10;77:201-27. (review)

Before 2015

Meng Z, Wang Y, Wang L, Jin W, Liu N, Pan H, Liu L, Wagman L, Forman BM, Huang W. FXR regulates liver repair after CCl₄-induced toxic injury. *Mol Endocrinol*. 2010 May;24(5):886-97.

Chow A, Zhou W, Liu L, Fong MY, Champer J, Van Haute D, Chin AR, Ren X, Gugiu BG, **Meng Z**, Huang W, Ngo V, Kortylewski M, Wang SE. Macrophage immunomodulation by breast cancer-derived exosomes requires Toll-like receptor 2-mediated activation of NF- κ B. *Sci Rep*. 2014 Jul 18;4:5750.

Liu G, Yu FX, Kim YC, **Meng Z**, Naipauer J, Looney DJ, Liu X, Gutkind JS, Mesri EA, Guan KL. Kaposi sarcoma-associated herpesvirus promotes tumorigenesis by modulating the Hippo pathway. *Oncogene*. 2014 Sep 8;0.

Yu FX, Luo J, Mo JS, Liu G, Kim YC, **Meng Z**, Zhao L, Peyman G, Ouyang H, Jiang W, Zhao J, Chen X, Zhang L, Wang CY, Bastian BC, Zhang K, Guan KL. Mutant Gq/11 promote uveal melanoma tumorigenesis by activating YAP. *Cancer Cell*. 2014 Jun 16;25(6):822-30.

Fu X, **Meng Z**, Liang W, Tian Y, Wang X, Han W, Lou G, Wang X, Lou F, Yen Y, Yu H, Jove R, Huang W. miR-26a enhances miRNA biogenesis by targeting Lin28B and Zcchc11 to suppress tumor growth and metastasis. *Oncogene*. 2014 Aug 21;33(34):4296-306.

Lou G, Ma X, Fu X, **Meng Z**, Zhang W, Wang YD, Van Ness C, Yu D, Xu R, Huang W. GPBAR1/TGR5 mediates bile acid-induced cytokine expression in murine Kupffer cells. *PLoS One*. 2014 Apr 22;9(4):e93567. doi: 10.1371/journal.pone.0093567.

Meng Z, Li T, Ma X, Wang X, Van Ness C, Gan Y, Zhou H, Tang J, Lou G, Wang Y, Wu J, Yen Y, Xu RZ, Huang W. Berbamine inhibits the growth of liver cancer cells and cancer initiating cells by targeting Ca²⁺/Calmodulin-dependent protein kinase II. *Mol Cancer Ther*. 2013 Oct;12(10):2067-77.

Chen T, **Meng Z**, Gan Y, Gu Y, Wang X, Zhang Y, Xu X, Tang J, Zhou H, Zhang X, Gan X, Xu G, Huang L, Zhang X, Fang Y, Zheng S, Jin J, Huang W, Xu R. The viral oncogene Np9 acts as a critical molecular switch for co-activating β -catenin, ERK, Akt and Notch1 and promoting the growth of human leukemia stem/progenitor cells. *Leukemia*. 2013 Jul;27(7):1469-78.

Wang X, Fu X, Van Ness C, **Meng Z**, Ma X, Huang W. Bile Acid Receptors and Liver Cancer. *Curr Pathobiol Rep*. 2013 Mar 1;1(1):29-35. (Review)

Gu Y, Chen T, **Meng Z**, Gan Y, Xu X, Zhang Y, Lou G, Li H, Gan X, Xu G, Tang J, Zhou H, Huang L, Zhang X, Fang Y, Zheng S, Huang W, Xu R. CaMKII γ , a critical regulator of multiple cancer signaling pathways, is a target of the natural product berbamine. *Blood*. 2012 Dec 6;120(24):4829-39. *, equal contribution.

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Meng Z, Wang X, Gan Y, Zhang Y, Zhou H, Van Ness C, Wu J, Lou G, Yu H, He C, Xu R, Huang W. Deletion of IFN γ enhances hepatocarcinogenesis in FXR knockout mice. *J Hepatol*. 2012 Nov;57(5):1004-12.

Liu N, **Meng Z**, Lou G, Zhou W, Wang X, Zhang Y, Zhang L, Liu X, Yen Y, Lai L, Forman BM, Xu Z, Xu R, Huang W. Hepatocarcinogenesis in FXR $^{-/-}$ Mice Mimics Human HCC Progression That Operates through HNF1 α Regulation of FXR Expression. *Mol Endocrinol*. 2012 May;26(5):775-85.

Lee CG, Kim YW, Kim EH, **Meng Z**, Huang W, Hwang SJ, Kim SG. Farnesoid X Receptor Protects Hepatocytes From Injury by Repressing miR-199a-3p, Which Increases Levels of LKB1. *Gastroenterology*. 2012 May;142(5):1206-1217.e7.

Li X, Deng R, He W, Liu C, Wang M, Young J, **Meng Z**, Du C, Huang W, Chen L, Chen Y, Martin P, Forman S, Zeng D. Loss of B7-H1 expression by recipient parenchymal cells leads to expansion of infiltrating donor CD8 $^{+}$ T cells and persistence of graft-versus-host disease. *J Immunol*. 2012 Jan 15;188(2):724-34.

Meng Z, Liu N, Fu X, Wang X, Wang YD, Chen WD, Zhang L, Forman BM, Huang W. Insufficient bile acid signaling impairs liver repair in CYP27 $^{-/-}$ mice. *J Hepatol*. 2011 Oct;55(4):885-95.

Chen X, Lou G, **Meng Z**, Huang W. *TGR5*: A Novel Target for Weight Maintenance and Glucose Metabolism. *Exp Diabetes Res*. 2011;2011:853501. (Review)

Chen X, **Meng Z**, Wang X, Zeng S, Huang W. The nuclear receptor CAR modulates alcohol-induced liver injury. *Lab Invest*. 2011 Aug;91(8):1136-45.

Chen WD, Wang YD, **Meng Z**, Zhang L, Huang W. Nuclear bile acid receptor FXR in the hepatic regeneration. *Biochim Biophys Acta*. 2011 Aug;1812(8):888-92. (Review)

Meng Z, Fu X, Chen X, Zeng S, Tian Y, Jove R, Xu R, Huang W. miR-194 is a marker of hepatic epithelial cells and suppresses metastasis of liver cancer cells in mice. *Hepatology*. 2010 Dec;52(6):2148-57.

Zhang L, Huang X, **Meng Z**, Dong B, Shiah S, Moore DD, Huang W. Significance and mechanism of CYP7a1 gene regulation during the acute phase of liver regeneration. *Mol Endocrinol*. 2009 Feb;23(2):137-45

Conference proceedings

Meng Z, Wang X, Huang W. Roles of the primary bile acid receptor FXR in liver repair and tumorigenesis. *Cancer Research* 72 (8 Supplement), 4424-4424

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Meng Z, Wang X, Huang W. Ablation of IFN γ Enhances Hepatocarcinogenesis by Promoting Activation of STAT3 and JAK. *Hepatology* 54, 1287A-1287A

INVITED SEMINARS

The Novel Hippo Pathway Components MAP4Ks and RAP2 Control Cell. *The Pathway to Excellence seminars*. Texas A&M College of Dentistry. Dallas, TX. Jan 15, 2019

CONFERENCE PRESENTATIONS

Meng Z, Guan K-L. RAP2 GTPases mediate mechanoresponses of the Hippo pathway. The Salk PRCS Symposium, La Jolla, CA (2018)

Meng Z, Guan K-L. RAP2 GTPases mediate mechanoresponses of the Hippo pathway. TSRC workshop for YAP/TAZ-TEAD, Telluride, CO (2018)

Meng Z, Wang X, Lou G, Van Ness C, Yu H, He C, Xu R, Huang W. IFN γ suppresses hepatocarcinogenesis of the aged mice by attenuating activation of STAT3 and JNK. American Association for the study of Liver Disease, San Francisco, CA (2011)

Meng Z. HNF1 α -regulated miR-194 is a hepatic epithelial cell marker and involved in liver cancer EMT. MOLAR Meeting, Los Angeles, CA (2010)

Meng Z. Roles of bile acids/FXR signaling in hepatoprotection and liver regrowth. MOLAR Meeting, Los Angeles, CA (2008)

Meng Z, Wang L, Huang X, Pan H, Liu L, Wagman L, Huang W. FXR regulates liver repair after CCl₄-induced injury. Cold Spring Harbor Symposium: nuclear receptors: from bench to bedside, New York, NY (2008)

JOURNAL PEER-REVIEW

2015 - present: Cancer Letters

2015 - present: Journal of Applied Physiology

2016 - present: American Journal of Physiology - Gastrointestinal and Liver Physiology

2015 - present: PLOS One

2015 - present: Cell & Bioscience

2015 - present: Apoptosis

2018 - present: Journal of Dental Research

TEACHING/MENTORING EXPERIMENCES

2017 - 2018: Cao Fang, visiting student from Zhejiang University, China (role: research adviser)

2016 - 2016: Jean Lee, UC San Diego rotation graduate student (role: research adviser)

2015 - 2017: Maggie Pan, UC San Diego undergraduate student (role: research adviser)

2014 - 2016: Shicong Lu, UC San Diego undergraduate student (role: research adviser)

2014 - 2016: Vicky Lu, UC San Diego undergraduate student (role: research adviser)

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2014 - 2014: Matthew DuPrie, UC San Diego rotation graduate student (role: research adviser)

References

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