

Curriculum Vitae

Lifeng Pan, Ph.D.

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Research Interests:

1. Combing structure biology (NMR together with X-ray crystallography), biochemistry, cell biology and organic chemistry approaches to pursue important biological questions related to human diseases and reveal detailed molecular mechanism, including: Investigation of the molecular principles concerning the biogenesis and function of cilia, as well as the disease mechanism of ciliopathies; Structural and functional studies of macromolecular complexes important in mTOR pathway, autophagy and necroptosis; Mechanistic studies of neurodegenerative diseases.
2. Bioactive small molecules related chemical biology studies, including: Mechanistic studies of natural small molecules and biological targets interactions; SAR-by-NMR based bioactive small molecules screen, optimization and additional drug design related to human cancer and immunity.
3. NMR based screen and characterization of specific metabolite/protein interactions.

Education:

2005.8 ~ 2010.6: Ph.D., Department of Biochemistry,
The Hong Kong University of Science and Technology, Hong Kong, China
Mentor: Prof. Mingjie Zhang, Member of Chinese Academy of Science
2001.9 ~ 2005.7: B.Sc., Department of Chemistry,
Fudan University, Shanghai, China,

Professional Experience:

2012.8 ~ present: Professor, State Key Laboratory of Bioorganic and Natural Products Chemistry,
Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, China
2011.3 ~ 2012.8: Research Assistant Professor, Section of Biochemistry and Cell Biology,
The Hong Kong University of Science and Technology, Hong Kong, China
2010.9 ~ 2011.2: Research Associate, Section of Biochemistry and Cell Biology,
The Hong Kong University of Science and Technology, Hong Kong, China

Honors and Awards:

2011 ▶ Travel Grant Award for Young Scientists (oral presentation) , The 4th APNMR
2010 ▶ Postgraduate Student Research Award, Section of Biochemistry and Cell Biology, HKUST, HK
2010 ▶ Finalist, the 2010 Young Scientist Award in Life Science of Hong Kong Institute of Science, HK
2010 ▶ Platform Presentation Award, Hong Kong Inter-University Biochemistry Postgraduate Symposium, HK

- 2009 ▶ Postgraduate Student Achievement Award, Department of Biochemistry, HKUST, HK
- 2009 ▶ Travel Grant Award for Young Scientists, The 3rd APNMR
- 2005 ▶ First-Class People Scholarship, Fudan University, China
▶ Shanghai Excellent Undergraduate on Graduation, China
- 2004 ▶ First-Class Unilever Scholarship, Fudan University & Unilever Inc., China
▶ Excellent Class Leader Award, Fudan University, China
- 2003 ▶ First-Class XiangLu Scholarship, Fudan University & XiangLu Inc., China
▶ Excellent League Member Award, Fudan University, China
- 2002 ▶ First-Class People Scholarship, Fudan University, China
▶ “Three Goods Student” Award, Fudan University, China

Publications:

1. **Pan, L.**, Wu, H., Shen, C., Shi, Y., Jin, W., Xia, J., and Zhang, M.* (2007) "Clustering and synaptic targeting of PICK1 requires direct interaction between the PDZ domain and lipid membranes." *EMBO J*, 26, 4576-4587.
2. Chen, J.[#], **Pan, L.**[#], Wei, Z., Zhao, Y., and Zhang, M.* (2008) "Domain Swapped Dimerization of ZO-1 PDZ2 Generates Specific and Regulatory Connexin43 Binding Sites" *EMBO J*, 27, 2113-2123. ([#]: co-first authors)
3. **Pan, L.**, Yan, J., Wu, L., and Zhang, M.* (2009) "Assembling Stable Hair-Cell Tip Link Complex via Multi-dentate Interactions between Harmonin and Cadherin23" *PNAS*. 106, 5575-5580.
4. Wen, W., Yu, J., **Pan, L.**, Wei, Z., Weng, J., Wang, W., Yan, S., Tran, T., Hong, W., and Zhang, M.* (2010) "Lipid-induced Conformational Switch Controls Fusion Activity of Longin Domain SNARE Ykt6" *Mol. Cell*, 37, 383-395
5. Yan, J.[#], **Pan, L.**[#], Chen, X., Wu, L., and Zhang, M.* (2010) "The Structure of the Harmonin/Sans Complex Reveals an Unexpected Interaction Mode of the Two Usher Syndrome Proteins" *PNAS*. 107, 4040-4045. ([#]: co-first authors)
6. Shi, Y., Yu, J., Jia, Y., **Pan, L.**, Shen, C., Xia, J., and Zhang, M.* (2010) "Redox-regulated lipid membrane binding of the PICK1 PDZ domain" *Biochemistry*. 49, 4432-443
7. Conan K. Wang., **Pan, L.**, Chen, J., and Zhang, M.* (2010) "Extensions of PDZ domains as important structural and functional elements" *PROTEIN & CELL*. 8, 737-751. (invited review)
8. Diao, Y., Liu, W., Wong, CC., Wang, X., Lee, K., Cheung, PY., **Pan, L.**, Xu, T., Han, J., Yates JR 3rd., Zhang, M., and Wu, Z.* (2010) "Oxidation-induced intramolecular disulfide bond inactivates mitogen-activated protein kinase kinase 6 by inhibiting ATP binding" *PNAS*. 107, 20974-20979
9. Wu, L.[#], **Pan, L.**[#], Wei, Z., and Zhang, M.* (2011) "Structure of MyTH4-FERM Domains in Myosin VIIa Tail Bound to Cargo" *Science*. 331, 757-760. ([#]:co-first authors, highlighted by Faculty of 1000, F1000 Cell Biology and F1000 Genomics & Genetics)
10. Feng, W., **Pan, L.**, and Zhang, M.* (2011) "Combination of NMR spectroscopy and X-ray crystallography offers unique advantages for elucidation of the structural basis of protein complex assembly" *Sci.China.Life.Sci*. 54, 101-111. (invited review)

11. Wei, Z., Yan, J., Lu, Q., **Pan, L.**, and Zhang, M.* (2011) "Cargo Recognition Mechanism of Myosin X Revealed by the Structure of its Tail MyTH4-FERM Tandem in Complex with the DCC P3 Domain" *PNAS*. 108, 3572-3577.
12. **Pan, L.**, Chen, J., Yu, J., Yu, H., and Zhang, M.* (2011) "The Structure of the PDZ3-SH3-GuK Tandem of ZO-1 Suggests a Supramodular Organization of the MAGUK Family Scaffold Protein Core" *J. Biol. Chem.* 286, 40069-40074.
13. **Pan, L.**, and Zhang, M.* (2012) "Structures of Usher Syndrome 1 Proteins and Their Complexes" *Physiology*, 27, 25-42. (invited review, cover story)
14. Li, X., He, L., Che, KH., Funderburk, SF., **Pan, L.**, Pan, N., Zhang, M., Yue, Z.*, Zhao, Y.* (2012) "Imperfect interface of Beclin1 coiled-coil domain regulates homodimer and heterodimer formation with Atg14L and UVRAG" *Nature Communications*, 3,662.
15. Wu, L.[#], **Pan, L.**[#], Zhang, C., and Zhang, M.* (2012) "Large protein assemblies formed by multivalent interactions between cadherin23 and harmonin suggest a stable anchorage structure at the tip link of stereocilia" *J. Biol. Chem.* ([#]:co-first authors, online)
16. Yu, C., Luo, J., Wu, J., **Pan, L.**, Feng, W. and Zhang, M.* (2012) "Membrane-induced lever arm expansion allows myosin VI to walk with large and variable step sizes" *J. Biol. Chem.* (online)