

Zhenjian Lin, Ph.D.

Research Assistant Professor, Department of Medicinal Chemistry, College of Pharmacy,
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RESEARCH EXPERIENCE

2012 Jun.-present. Research Assistant Professor, Department of Medicinal Chemistry, University of Utah.

EDUCATION

2009 Jul.-2012 Jun. Postdoctoral Fellow, Department of Medicinal Chemistry, University of Utah. with Professor Eric W. Schmidt

2004 Sept.-2009 Jun. Ph.D. in Natural Products Chemistry, Ocean University of China, Qingdao, China, Dissertation Advisor: Professor Qianqun Gu

2000 Sept.-2004 Jun. B.Sc. in Pharmacy, Ocean University of China, Qingdao, China

HONORS AND AWARDS

1. Outstanding Graduate Student, Ocean University of China, 2009
2. First Class Scholarship for Graduate Students, Ocean University of China , 2008
3. Poster Presentation Award of the 6th International Symposium for Chinese Medicinal Chemists, 2008

RESEARCH INTEREST

Marine natural products chemistry, symbiotic microorganisms, biosynthesis, drug discovery, NMR and MS for structure elucidation of novel natural products

I am currently working with marine gastropod mollusks, especially cone snails, from the Philippines. Cone snails are well known for the potent peptide venoms, which are used clinically already. We sought to ask whether symbiotic bacteria might also contribute to the complex chemistry of these mollusks. In pilot work, we found that actinomycete bacteria seem to form specific relationships with cone snails. In turn, these bacteria make numerous bioactive small molecules. Because cone snails and their allies have radiated to form thousands of closely related species, we reasoned that this result could translate to a huge number of new, active bacterial natural products for drug discovery.

MANUSCRIPTS REVIEWED

For the journal Philippine Science Letters, 2013

For the journal Molecules, 2013

For the journal Archives of Pharmacal Research, 2013

VISITING SCIENTISTS AND UNDERGRADUATES MENTORED

2012 Aug.-Dec. Mark Jeremiah Cleofas, visiting scientist, University of Philippines

2011 Oct.-2012 Mar. Gaiselle Florentino Mabeza, visiting student, University of Philippines

2011 Mar.- Aug. Jonathan Richard Goebel, undergraduate, University of Utah

PRESENTATION:

Poster presentation:

1. **Lin, Zhenjian.** (2012). Do symbiotic bacteria make mollusk polypropionates? Gordon Research Conference, Marine Natural Products, California, USA.
2. **Lin, Zhenjian.** (2010). Neuroactive Compounds from Mollusk-Associated Bacteria. Gordon Research Conference, Marine Natural Products, California, USA.

Oral presentation:

1. **Lin, Zhenjian.** (2012). Neuroactive Natural Products from Mollusks and Their Associated Bacteria. 244th ACS National Meeting & Exposition, Philadelphia, PA, United States, August 19-23, 2012 (2012), AGFD-33.

PATENT APPLICATIONS

1. Schmidt, Eric W.; **Lin, Zhenjian**; Antemano, Rowena R.; Light, Alan; Olivera, Baldomero M.; Concepcion, Gisela P. *Methods and compositions related to neuroactive thiazoline compounds.* PCT Int. Appl. (2012), WO 2012051502 A1 20120419
2. Schmidt, Eric; Light, Alan; Olivera, Baldomero M.; Reilly, Christopher A.; **Lin, Zhenjian**; Concepcion, Gisela P. *Antagonists of TRPV1 receptor.* PCT Int. Appl. (2012), WO 2012149218 A2 20121101.
3. Gu, Qianqun; **Lin, Zhenjian**; Zhu, Weiming; Zhu, Tianjiao; Fang, Yuchun. *Preparation of chrysoenamamide A by fermentation with Penicillium chrysogenum and its application for treating senile dementia.* Faming Zhuanli Shenqing Gongkai Shuomingshu (2009), CN 101463036 A 20090624.

PUBLICATIONS: peer-reviewed journal articles

1. **Lin, Zhenjian**; Koch Michael; Pond Christopher D; Mabeza Gaiselle; Seronay Romell A; Concepcion Gisela P; Barrows Louis R; Olivera Baldomero M; Schmidt Eric W. *Structure and activity of lobophorins from a turrid mollusk-associated Streptomyces sp.* The Journal of antibiotics (2013).
2. **Lin, Zhenjian**; Marett, Lenny; Hughen, Ronald W.; Flores, Malem; Forteza, Imelda; Ammon, Mary Anne; Concepcion, Gisela P.; Espino, Samuel; Olivera, Baldomero M.; Rosenberg, Gary; *Neuroactive diol and acyloin metabolites from cone snail-associated bacteria.* Bioorganic & Medicinal Chemistry Letters (2013), 23(17), 4867-4869.
3. Kakule, TB; Sardar, D; **Lin, Zhenjian**; Schmidt, Eric W. *Two related pyrrolidinedione synthetase loci in Fusarium heterosporum ATCC 74349 produce divergent metabolites.* ACS chemical biology, (2013), 8(7), 1549-1557.
4. McIntosh, John A.; **Lin, Zhenjian**; Tianero, Ma. Diarey B.; Schmidt, Eric W. *Aestuaramides, a natural library of cyanobactin cyclic peptides resulting from isoprene-derived Claisen rearrangements.* ACS Chemical Biology, 2013, 8 (5), pp 877–883.
5. **Lin, Zhenjian**; Torres, Joshua P.; Schmidt, Eric W. et al.. *A bacterial source for mollusk pyrone polyketides.* Chemistry and Biology, 2013, 20, 73–81.
6. **Lin, Zhenjian**; Falkinham, III, Joseph O.; Tawfik, Kamilia A.; Jeffs, Peter; Schmidt, Eric W. *Burkholdines from Burkholderia ambifaria: antifungal agents and possible virulence factors.* Journal of Natural Products, 2012, 75 (9), 1518–1523.
7. **Lin, Zhenjian**; Flores, Malem; Forteza, Schmidt, Eric W. et al. *Totopotensamides, polyketide-cyclic peptide hybrids from a mollusk-associated bacterium Streptomyces sp.* Journal of Natural Products, 2012, 75 (4), 644–649.
8. **Lin, Zhenjian**; Reilly, Christopher A.; Antemano, Rowena; Schmidt, Eric W. et al. *Nobilamides A-H, long-acting transient receptor potential vanilloid-1 (TRPV1) antagonists from mollusk associated bacteria.* Journal of Medicinal Chemistry (2011), 54(11), 3746-3755.
9. **Lin, Zhenjian**; Antemano, Rowena R.; Schmidt, Eric W. et al. *Pulicatins A-E, neuroactive thiazoline metabolites from cone snail-associated bacteria.* Journal of Natural Products (2010), 73(11), 1922-1926.
10. **Lin, Zhenjian**; Zhu, Tianjiao; Wei, Hongjuan; Zhang, Guojian; Wang, Hui; Gu, Qianqun. *Spicochalsin A and new aspochalsins from the marine-derived fungus Spicaria elegans.* European Journal of Organic Chemistry (2009), (18), 3045-3051, S3045/1-S3045/4.
11. **Lin, Zhenjian**; Zhu, Tianjiao; Chen, Li; Gu, Qianqun. *Three new aspochalsin derivatives from the marine-derived fungus Spicaria elegans.* Chinese Chemical Letters (2010), 21(7), 824-826.

12. **Lin, Zhenjian**; Zhu, Tianjiao; Zhang, Guojian; Wei, Hongjuan; Gu, Qianqun. *Deoxy-cytochalasins from a marine-derived fungus Spicaria elegans*. Canadian Journal of Chemistry (2009), 87(3), 486-489.
13. **Lin, Zhenjian**; Zhang, Guojian; Zhu, Tianjiao; Liu, Rui; Wei, Hongjuan; Gu, Qianqun. *Bioactive cytochalasins from Aspergillus flavipes, an endophytic fungus associated with the mangrove plant Acanthus ilicifolius*. Helvetica Chimica Acta (2009), 92(8), 1538-1544.
14. Liu, Rui; **Lin, Zhenjian (co-first author)**; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun; Zhu, Weiming. *Novel open-chain cytochalasins from the marine-derived fungus Spicaria elegans* Journal of Natural Products (2008), 71(7), 1127-1132.(co-author)
15. **Lin, Zhenjian**; Wen, Jiangni; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun; Zhu, Weiming. *Chrysogenamide A from an endophytic fungus associated with Cistanche deserticola and its neuroprotective effect on SH-SY5Y cells*. Journal of Antibiotics (2008), 61(2), 81-85.
16. **Lin, Zhenjian**; Lu, Xiaoming; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun; Zhu, Weiming. *GPR12 selections of the metabolites from an endophytic Streptomyces sp. associated with Cistanches deserticola*. Archives of Pharmacal Research (2008), 31(9), 1108-1114.
17. Lu, Zhenyu; **Lin, Zhenjian**; Wang, Wenliang; Du, Lin; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun; Zhu, Weiming. *Citrinin dimers from the halotolerant fungus Penicillium citrinum B-57*. Journal of Natural Products (2008), 71(4), 543-546.
18. **Lin, Zhenjian**; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun; Zhu, Weiming. *Polyketides from Penicillium sp. JP-1, an endophytic fungus associated with the mangrove plant Aegiceras corniculatum*. Phytochemistry (Elsevier) (2008), 69(5), 1273-1278.
19. **Lin, Zhenjian**; Lu, Zhenyu; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun; Zhu, Weiming. *Penicillenols from Penicillium sp. GQ-7, an endophytic fungus associated with Aegiceras corniculatum*. Chemical & Pharmaceutical Bulletin (2008), 56(2), 217-221.
20. **Lin, Zhenjian**; Zhu, Tianjiao; Fang, Yuchun; Gu, Qianqun. *¹H and ¹³C NMR assignments of two new indolic enamide diastereomers from a mangrove endophytic fungus Aspergillus sp.* Magnetic Resonance in Chemistry (2008), 46(12), 1212-1216.
21. Zhang, Guojian; Sun, Shiwei; Zhu, Tianjiao; **Lin, Zhenjian**; Gu, Jingyan; Li, Dehai; Gu, Qianqun. *Antiviral isoindolone derivatives from an endophytic fungus Emericella sp. Associated with Aegiceras corniculatum*. Phytochemistry (Elsevier) (2011), 72(11-12), 1436-1442.
22. Wang, Fazuo; Wei, Hongjuan; Zhu, Tianjiao; Li, Dehai; **Lin, Zhenjian**; Gu, Qianqun. *Three new cytochalasins from the marine-derived fungus Spicaria elegans KLA03 by supplementing the cultures with L- and D-tryptophan*. Chemistry & Biodiversity (2011), 8(5), 887-894.
23. Zhu, Tianjiao; Du, Lin; Hao, Pengfei; **Lin, Zhenjian**; Gu, Qianqun. *Citrinal A, a novel tricyclic derivative of citrinin, from an algicolous fungus Penicillium sp. i-1-1*. Chinese Chemical Letters (2009), 20(8), 917-920.
24. Li, Ning; Hu, Jingjie; Wang, Shan; Cheng, Jie; Hu, Xiaoli; Lu, Zhenyu; **Lin, Zhenjian**; Zhu, Weiming; Bao, Zhenmin. *Isolation and identification of the main carotenoid pigment from the rare orange muscle of the Yesso scallop*. Food Chemistry (2009), 118(3), 616-619.
25. Li, Dehai; Cai, Shengxin; Tian, Li; **Lin, Zhenjian**; Zhu, Tianjiao; Fang, Yuchun; Liu, Peipei; Gu, Qianqun; Zhu, Weiming. *Two new metabolites with cytotoxicities from deep-sea fungus, Aspergillus sydowi YH11-2*. Archives of Pharmacal Research (2007), 30(9), 1051-1054.