

Shanghai Institute of Organic Chemistry
345 Lingling Road
Shanghai 200032, China
Tel: 86-21-54925113
E-mail: gltang@mail.sioc.ac.cn

Gong-Li Tang, Ph.D.

Research Interests

- ◇ Biosynthesis of Natural Products: Cloning the biosynthetic gene cluster, exploiting biosynthetic pathway, characterizing novel enzymatic reaction, and creating structural diversity by combinatorial biosynthesis or chemo-biological methods.
- ◇ Strain Improvement: Improving production of antibiotics by metabolic engineering.
- ◇ Chemical Biology: Screening and identifying protein targets of bioactive natural products by phage display cloning.

Professional Experience

2003–present: Professor, *State Key Laboratory of Bioorganic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, P. R. China*

2001–2003: Research Associate, *School of Pharmacy, University of Wisconsin, Madison, U.S.A.*

1999–2000: Assistant Professor and Associate Professor, *State Key Laboratory of Bioorganic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, P. R. China*

Postdoctoral Training

2000–2001: University of California, Davis, California, USA

- ◇ Department: Chemistry
- ◇ Field of research: Biosynthesis of Natural Products
- ◇ Director: Prof. Ben Shen

Education

1994-1999: Ph.D., Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, China

- ◇ Department: State Key Laboratory of Bioorganic and Natural Products Chemistry
- ◇ Major: Bioorganic Chemistry
- ◇ Director: Prof. Hai-Bao Chen

1990-1994: B.S., Nankai University, Tianjin, China

- ◇ Department: Environmental Science
- ◇ Major: Environmental Chemistry
- ◇ Director: Prof. Guo-Lan Huang

Honors and Awards

2004: Outstanding Young (Grant), National Natural Science Foundation of China
2005 and 2008: Rising Star (Grant), Scientific and Technological Committee of Shanghai

1999: Weihua Scientific and Technological Award, Chinese Academy of Sciences

Selected Recent Publications

1. Fu, C.-Y.; Tang, M.-C.; Peng, C.; Li, L.; He, Y.-L.; Liu, W. **Tang, G.-L.*** "Biosynthesis of 3-hydroxy-5-methyl-O-methyltyrosine in the saframycin/safracin biosynthetic pathway", *J. Microbiol. Biotechnol.* **2009**, in press (doi:10.4014/jmb.0808.484).
2. He, Q.-L.; Jia, X.-Y.; Tang, M.-C.; Tian, Z.-H.; **Tang, G.-L.***; Liu, W.* "Dissection of two acyl transfer reactions centered on acyl-S-carrier protein intermediates for incorporating 5-chloro-6-methyl-O-methylsalicylic acid into chlorothricin", *ChemBioChem* **2009**, in press.
3. He, Q.-L.; Jiang, H.; Zhang, F.; Chen, H.-B.; **Tang, G.-L.*** "Simultaneous identification of multiple receptors of natural product using an optimized cDNA phage display cloning", *Bioorg. Med. Chem. Lett.* **2008**, *18*, 3995-3998.
4. Li, L.; Deng, W.; Song, J.; Ding, W.; Zhao, Q.-F.; Peng, C.; Song, W.-W.; **Tang, G.-L.***; Liu, W.* "Characterization of the saframycin A gene cluster from *Streptomyces lavendulae* NRRL 11002 revealing a NRPS system for assembling the unusual tetrapeptidyl skeleton in an iterative manner", *J. Bacteriol.* **2008**, *190*, 251-263.
5. Zhao, Q.; He, Q.; Ding, W.; Tang, M.; Kang, Q.; Yu, Y.; Deng, W.; Zhang, Q.; Fang, J.; **Tang, G.-L.**; Liu, W.* "Characterization of the azinomycin B biosynthetic gene cluster revealing a different iterative type I polyketide synthase for naphthoate biosynthesis". *Chem. Biol.* **2008**, *15*, 693-705.
6. **Tang, G.-L.**; Cheng, Y.-Q.; Shen, B. "Chain initiation in the leinamycin-producing hybrid nonribosomal peptide/polyketide synthetase from *Streptomyces atroolivaceus* S-140", *J. Biol. Chem.* **2007**, *282*, 20273-20282.
7. Jia, X.-Y.; Tian, Z.-H.; Shao, L.; Qu, X.-D.; Zhao, Q.-F.; Tang, J.; **Tang, G.-L.***; Liu, W.* "Characterization of the chlorothricin biosynthetic gene cluster as a model for spirotetronate antibiotic biosynthesis", *Chem. Biol.* **2006**, *13*, 575-585.
8. Shao, L.; Qu, X.-D.; Jia, X.-Y.; Zhao, Q.-F.; Tian, Z.-H.; Wang, M.; **Tang, G.-L.***; Liu, W.* "Cloning and characterization of a bacterial iterative type I polyketide synthase gene encoding the 6-methylsalicylic acid synthase", *Biochem. Biophys. Res. Comm.* **2006**, *345*, 133-139.
9. **Tang, G.-L.**; Cheng, Y.-Q.; Shen, B. "Polyketide chain skipping mechanism in the biosynthesis of the hybrid nonribosomal peptide-polyketide antitumor antibiotic leinamycin in *S. atroolivaceus* S-140". *J. Nat. Prod.* **2006**, *69*, 387-393.
10. **Tang, G.-L.#**; Cheng, Y.-Q.#; Shen, B. "The biosynthetic gene cluster of the antitumor antibiotic leinamycin from *S. atroolivaceus* S-140 revealing unprecedented architectural complexity for a hybrid non-ribosomal peptide/polyketide synthetase (#contribution equally)", *Chem. Biol.*, **2004**, *11*, 33-45.
11. Cheng, Y.-Q.#; **Tang, G.-L.#**; Shen, B. "Type I polyketide synthase requiring a discrete acyltransferase for polyketide biosynthesis. (#contribution equally)", *Proc. Natl. Acad. Sci. USA.* **2003**, *100*, 3149-3154. [Featured in: *Proc. Natl. Acad. Sci. USA.* **2003**, *100*, 3010-3012]
12. Cheng, Y.-Q.; **Tang, G.-L.**; Shen, B. "Identification and localization of the antitumor macrolactam leinamycin biosynthesis gene cluster from *streptomyces atroolivaceus* S-140", *J. Bacteriol.* **2002**, *184*, 7013-7024.
13. **Tang, G.-L.**; Wang, Y.-F.; Bao, J.-S.; Chen, H.-B. "Two-cistron system overexpression of chloroplast glyceraldehyde-3-phosphate dehydrogenase subunit B and B-derivatives from spinach in *E. coli.*", *Protein Expression Purif.* **2001**, *22*, 31-37.
14. **Tang, G.-L.**; Wang, Y.-F.; Bao, J.-S.; Chen, H.-B. "Overexpression in *E. coli* and characterization of the chloroplast fructose-1,6-bisphosphatase from wheat", *Protein Expression Purif.* **2000**, *19*, 411-418.

