NATCHANUN **SIRIMANGKALAKITTI**

Specially Appointed Assistant Professor
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EDUCATION

2010 – 2016	**Ph.D. in Pharmacognosy**, Department of Pharmacognosy and Pharmaceutical Botany, Faculty of Pharmaceutical Sciences, Chulalongkorn University, Thailand Dissertation: Chemistry and bioactivities of marine natural products from sponges *Acanthodendrilla* sp. and *Xestospongia* sp. Supervisor: Khanit Suwanborirux, Ph.D.
2005 – 2010	**B.Sc. in Pharmacy** (2nd class honors), Chulalongkorn University, Thailand

PROFESSIONAL EXPERIENCE

10/2019 – 03/2021	**Postdoctoral Fellowship** under the TBRF Postdoctoral Fellowship Program for Asian Researchers, Laboratory of Organic Chemistry for Drug Development, Graduate School of Pharmaceutical Sciences, Osaka University, Japan Topic: Advanced exploitation of natural resources for drug discovery Supervisor: Professor Mitsuhiro Arisawa
04/2017 – 09/2019	**Postdoctoral Researcher** in the Dementia Drug Resource Development Center, Meiji Pharmaceutical University, Japan Topic: Development of anti-dementia drug seeds from natural products Supervisor: Professor Naoki Saito
01/2017 – 03/2017	**Visiting Researcher** at Meiji Pharmaceutical University, Japan Topic: Development for study on dementia active resource based on bioactive marine natural products Supervisor: Professor Naoki Saito

SCHOLARSHIP AWARDS

2019 – 2021	TBRF Postdoctoral Fellowship Program for Asian Researchers, The Tokyo Biochemical Research Foundation (1.5 years)
2017 – 2019	Postdoctoral Fellowship in Dementia Drug Resource Development Project, MEXT-Supported Program for the Strategic Research Foundation at Private Universities (2.5 years)
2017	Meiji Pharmaceutical University Asia/Africa Center for Drug Discovery (MPU-AACDD) grant, Meiji Pharmaceutical University (2 months)
2013 – 2014	Meiji Pharmaceutical University Asia/Africa Center for Drug Discovery (MPU-AACDD) grant, Meiji Pharmaceutical University (10 months)
2010 – 2016	Royal Golden Jubilee Ph.D. Program (Grant No. PHD/0276/2552), the Thailand Research Fund (5.5 years)

RESEARCH INTERESTS

- Natural product chemistry
- Marine natural products
- Extraction, isolation and structure determination
- Structure modification/Semi-synthesis of bioactive natural products
- Enzyme- and cell-based assay for drug discovery and development

TECHNICAL SKILLS

- Chromatographic techniques: TLC, column chromatography, HPLC, MPLC
- Spectroscopy for structure elucidation: UV, IR, MS, NMR, CD
- General organic synthesis, Catalytic chemical conversion
- Cell culture, Western blot analysis
- SCUBA diving

PUBLICATIONS

1. Chamni S, **Sirimangkalakitti N**, Chanvorachote P, Suwanborirux K, Saito N. Chemistry of renieramycins. part 19: Semi-syntheses of 22-*O*-amino ester and hydroquinone 5-*O*-amino ester derivatives of renieramycin M and their cytotoxicity against non-small-cell lung cancer cell lines. *Marine Drugs* **18**, 418 (2020).
2. Yokoya M, Monden K, Sato M, **Sirimangkalakitti N**, Saito N. Chemistry of renieramycins part 18. Synthesis of renieramycin M and so-called fennebricin A from (+/-)-jorunnamycin A. *Heterocycles* **101**, 548-558 (2020).
3. **Sirimangkalakitti N**, Juliawaty LD, Hakim EH, Waliana I, Saito N, Koyama K, Kinoshita K. Naturally occurring biflavonoids with amyloid β aggregation inhibitory activity for development of anti-Alzheimer agents. *Bioorganic & Medicinal Chemistry Letters* **29**, 1994–1997 (2019).
4. Matsubara T, Yokoya M, **Sirimangkalakitti N**, Saito N. Asymmetric synthesis and cytotoxicity evaluation of right-half models of antitumor renieramycin marine natural products. *Marine Drugs* **17**, 3 (2019).
5. Chamni S, **Sirimangkalakitti N**, Chanvorachote P, Saito N, Suwanborirux K. Chemistry of renieramycins. 17. A new generation of renieramycins: 5-*O*-ester monohydroquinone analogues of renieramycin M as potential cytotoxic agents against non-small-cell lung cancer cells. *Journal of Natural Products* **80**, 1541-1547 (2017).
6. **Sirimangkalakitti N**, Chamni S, Suwanborirux K and Chanvorachote P. Renieramycin M attenuates cancer stem cell-like phenotypes in H460 lung cancer cells. *Anticancer Research* **37**, 615-622 (2017).
7. Saito N, Hiramatsu A, Hirade H, Kubota M, Toyoshima R, Fujino A, **Sirimangkalakitti N**, Suwanborirux K, Concepcion GP. Chemistry of renieramycins. 16. Structure of 7-demethylrenieramycin O (= 14*α*-hydroxyrenieramycin S) from blue sponge, *Xestospongia* sp. *Heterocycles* **95**, 748-752 (2017).
8. **Sirimangkalakitti N**, Chamni S, Charupant K, Chanvorachote P, Mori N, Saito N and Suwanborirux K. Chemistry of renieramycins. Part 15: Synthesis of 22-*O*-ester derivatives of jorunnamycin A and their cytotoxicity against non-small cell lung cancer cells. *Journal of Natural Products* **79**, 2089-2093 (2016).
9. **Sirimangkalakitti N**, Chamni S, Suwanborirux K and Chanvorachote P. Renieramycin M sensitizes anoikis-resistant H460 lung cancer cells to anoikis. *Anticancer Research* **36**, 1665-1671 (2016).

10. **Sirimangkalakitti N**, Yokoya M, Chamni S, Chanvorachote P, Plubrukarn A, Saito N and Suwanborirux K. Synthesis and absolute configuration of acanthodendrilline, a new cytotoxic bromotyrosine alkaloid from the Thai marine sponge *Acanthodendrilla* sp. *Chemical and Pharmaceutical Bulletin* **64**, 258-262 (2016).
11. **Sirimangkalakitti N**, Olatunji O, Changwichit K, Saesong T, Chamni S, Chanvorachote P, Ingkaninan K, Plubrukarn A and Suwanborirux K. Bromotyrosine marine alkaloids with acetylcholinesterase inhibitory activity from the Thai sponge *Acanthodendrilla* sp. *Natural Product Communications* **10**: 1945-1949 (2015).
12. Cheun-Arom T, Chanvorachote P, **Sirimangkalakitti N**, Chuanasa T, Saito N, Abe I and Suwanborirux K. Replacement of a quinone by a 5-*O*-acetylhydroquinone abolishes the accidental necrosis inducing effect while preserving the apoptosis-inducing effect of renieramycin M on lung cancer cells. *Journal of Natural Products* **76**, 1468-1474 (2013).

ORAL/POSTER PRESENTATIONS

1. **Sirimangkalakitti N**, Yokoya M, Chamni S, Suwanborirux K, Naoki S. Structure-cytotoxicity relationship studies of bis-1,2,3,4-tetrahydroisoquinoline alkaloids as promising anticancer agents. 20th Tetrahedron Symposium, 18-21 June 2019, Bangkok, Thailand (**Elsevier Best Poster Prize**).
2. **Sirimangkalakitti N**. Renieramycin M and its derivatives as promising anticancer leads. 3 September 2018, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Japan.
3. **Sirimangkalakitti N**, Keiyo N, Yamazaki M, Kino Y, Satoh J, Saito N. Bioactivity studies of bioactive isoquinoline antibiotics. 138th Annual Meeting of the Pharmaceutical Society of Japan, 26-28 March 2018, Kanazawa, Japan.
4. **Sirimangkalakitti N**. Chemistry of bioactive Thai marine natural products. 29 November 2017, School of Pharmaceutical Sciences, University of Shizuoka, Japan.
5. Yokoya M, **Sirimangkalakitti N**, Chamni S, Mochizuki M, Suzuki T, Saito N. Medicinal chemistry of anticancer isoquinoline natural products. 35th Medicinal Chemistry Symposium, 25-27 October 2017, Nagoya, Japan.
6. **Sirimangkalakitti N**, Yokoya M, Changwichit K, Saesong T, Olatunji OJ, Chamni S, Chanvorachote P, Ingkaninan K, Plubrukarn A, Saito N, Suwanborirux K. Bromotyrosine alkaloids with

acetylcholinesterase inhibitory activity from the Thai sponge *Acanthodendrilla* sp. 9th Joint Natural Products Conference 2016, 24-27 July 2016, Copenhagen, Denmark.

7. **Sirimangkalakitti N**, Saito N, Chanvorachote P and Suwanborirux K. Structure modification and cytotoxicity of 22-*O*-acyl analogs of renieramycin M, a marine bistetrahydroisoquinoline-quinone alkaloid. RGJ-Ph.D. Congress XVI, 11-13 June 2015, Pattaya, Chonburi, Thailand.
8. **Sirimangkarakitti N**, Patarapanich C, Chanvorachote P, and Suwanborirux K. Acylhydro-quinone derivatives of renieramycin M: Preparation and cytotoxic activity. 13th Symposium on Marine Natural Products (MaNaPro XIII), 17-22 October 2010, Phuket, Thailand.

RESEARCH CONTRIBUTIONS

1. Senbonmatsu Y, Kimura S, Akiba M, Ando S, **Sirimangkalakitti N**, Saito N. Synthesis and biological evaluation of the chiral right-hand models of antitumor bis-1,2,3,4-tetrahydroisoquinoline natural products. 20th Tetrahedron Symposium, 18-21 June 2019, Bangkok, Thailand.
2. Asami B, Kazuto N, Toshihiro S, **Sirimangkalakitti N**, Yuna E, Ryoko T, Naoki S, Yuki Ogasawara. ヌクレオチド除去修復を介したレニエラマイシン類のシスプラチン耐性の克服. The 23rd Annual Meeting of Japanese Association for Molecular Target Therapy of Cancer, 12-14 June 2019, Osaka, Japan.
3. Kitahara Y, Kimura S, Ishikura A, Puksasook T, Nukoolkarn V, **Sirimangkalakitti N**, Saito N. 新規認知症治療薬の開発を目指したレスベラトロール誘導体の合成と構造活性相関 62nd Annual Meeting of Japan Pharmaceutical Society Kanto Branch, 15 September 2018, Tokyo, Japan.
4. Matsubara T, Yokoya M, **Sirimangkalakitti N**, Saito N. Renieramycin 類の光学活性 CDE 環モデルの合成研究 138th Annual Meeting of the Pharmaceutical Society of Japan, 26-28 March 2018, Kanazawa, Japan and 62nd Annual Meeting of Japan Pharmaceutical Society Kanto Branch, 15 September 2018, Tokyo, Japan.
5. Kimura S, Abe R, **Sirimangkalakitti N**, Kino Y, Satoh J, Saito N. 新規アルツハイマー病治療薬の創製: スチルベン誘導体の合成と構造活性相関 138th Annual Meeting of the Pharmaceutical Society of Japan, 26-28 March 2018, Kanazawa, Japan.
6. Kitahara Y, Kimura S, Puksasook T, Nukoolkarn V, **Sirimangkalakitti N**, Saito N. 新規認知症治療薬の開発を目指したレスベラトロール誘導体の合成 61st Annual Meeting of Japan Pharmaceutical Society Kanto Branch, 16 September 2017, Tokyo, Japan.