

# Alexander A. Vinogradov

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## *Curriculum Vitae*

updated on February 9, 2026

### Academic degrees

- 2012 – 2017      Ph.D. in Biological Chemistry  
Massachusetts Institute of Technology, Cambridge, MA, USA  
Thesis advisor: Prof. Bradley Pentelute  
Thesis title: “*New methods for synthesis and modification of peptides and proteins*”
- 2007 – 2012      Specialist in Chemistry (equivalent to MSc)  
Moscow State University, Moscow, Russia  
Thesis advisor: Prof. Nikolay Zyk  
Thesis title: “*Transformations of 1,1-dichloro-, 1,1-dibromo- and 1-bromo-1-fluorocyclopropanes under the nitrosation reaction conditions*”

### Employment since last degree

- Dec 2024 –      Presidential Young Professor  
National University of Singapore, Department of Pharmacy  
Singapore
- 2019 – 2024      Project Assistant Professor  
The University of Tokyo, Suga lab  
Tokyo, Japan
- 2017 – 2019      Postdoctoral Research Associate  
The University of Tokyo, Suga lab  
Tokyo, Japan

### Primary research articles

† indicates equal contribution

‡ indicates corresponding authorship

1. Y. Ohno, [A. Vinogradov](#),<sup>†</sup> and H. Suga.<sup>‡</sup> *Discovery of Ultrapotent Heterodimeric Peptide Ligands using Library-vs-Library RaPID Selections*. in review.
2. C. Li, Y. Sun, [A. Vinogradov](#),<sup>†</sup> and H. Suga.<sup>‡</sup> *De novo discovery of bicyclic cysteine-rich peptides targeting gasdermin D*. Proc. Natl. Acad. Sci. U. S. A., **2026**, 123, e2516051123.
3. E. Ang, J. Chang, W. Huang, S. Ullrich, [A. Vinogradov](#), and H. Suga.<sup>‡</sup> *Elucidating Leader Peptide–Enzyme Dynamics in Lactazole Biosynthesis Using mRNA Display*. J. Am. Chem. Soc. **2026**, 148, 2890–2895.

4. S. Haslböck, A. Vinogradov, C. Okada, N. Fujimura, H. Aikawa, T. Sengoku,<sup>‡</sup> and H. Suga.<sup>‡</sup> *Discovery of Supra-Bivalent GSK3 $\beta$  Inhibitory Peptides Containing an ATP-Mimetic Amino Acid*. J. Am. Chem. Soc. **2026**, 148, 368–378.
5. Y. Zhang, A. Vinogradov, Y. Sun, and H. Suga.<sup>‡</sup> *Ribosomal Synthesis of Topologically Defined Thioisoindole-Bridged Bicyclic Peptides*. Angew. Chem. Int. Ed. **2026**, 65, e17689.
6. A. Vinogradov<sup>‡</sup> and H. Suga.<sup>‡</sup> *Measuring  $k_{cat}/K_M$  values for over 200,000 enzymatic substrates with mRNA display*. Chem, **2026**, 12, 102737.
7. D. Nguyen, J. Ramos-Figueroa, A. Vinogradov, Y. Goto, M. Gadgil, R. Splain, H. Suga, W. van der Donk,<sup>‡</sup> and D. Mitchell.<sup>‡</sup> *Aminoacyl-tRNA specificity of a ligase catalyzing non-ribosomal peptide extension*. J. Am. Chem. Soc. **2025**, 147, 37893–37898.
8. A. Vinogradov,<sup>‡</sup> S. Pan, and H. Suga.<sup>‡</sup> *Ligand-Enabled Selective Coupling of MIDA Boronates to Dehydroalanine-Containing Peptides and Proteins*. J. Am. Chem. Soc. **2025**, 147, 7533–7544.
9. A. Vinogradov,<sup>‡</sup> G. Bashiri, and H. Suga.<sup>‡</sup> *Illuminating Substrate Preferences of Promiscuous  $F_{420}H_2$ -Dependent Dehydroamino Acid Reductases with 4-Track mRNA Display*. J. Am. Chem. Soc. **2024**, 2024, 146, 31124–31136.
10. Y. Ohno, A. Vinogradov,<sup>‡</sup> and H. Suga.<sup>‡</sup> *Selective pH-Responsive Conjugation between a Pair of De Novo Discovered Peptides*. J. Am. Chem. Soc. **2024**, 146, 29429–29440.
11. H. King, M. Bycroft, T. Nguyen, G. Kelly, A. Vinogradov, P. Rowling, K. Stott, D. Ascher, H. Suga, L. Itzhaki, K. Artavanis-Tsakonas.<sup>‡</sup> *Targeting the Plasmodium falciparum UCHL3 ubiquitin hydrolase using chemically constrained peptides*. Proc. Natl. Acad. Sci. U. S. A., **2024**, 121, e2322923121.
12. A. Vinogradov,<sup>‡</sup> Y. Zhang,<sup>†</sup> K. Hamada, S. Kobayashi, K. Ogata, T. Sengoku, Y. Goto,<sup>‡</sup> and H. Suga.<sup>‡</sup> *A Compact Reprogrammed Genetic Code for de Novo Discovery of Proteolytically Stable Thiopeptides*. J. Am. Chem. Soc. **2024**, 146, 8058–8070.
13. J. Chang, A. Vinogradov,<sup>‡</sup> Y. Zhang, Y. Goto,<sup>‡</sup> and H. Suga.<sup>‡</sup> *Deep Learning-Driven Library Design for the De Novo Discovery of Bioactive Thiopeptides*. ACS Cent. Sci. **2023**, 9, 2150–2160.
14. A. Vinogradov, Y. Zhang, K. Hamada, J. Chang, C. Okada, H. Nishimura, N. Terasaka, Y. Goto,<sup>‡</sup> K. Ogata, T. Sengoku, H. Onaka, and H. Suga.<sup>‡</sup> *De Novo Discovery of Thiopeptide Pseudo-natural Products Acting as Potent and Selective TNIK Kinase Inhibitors*. J. Am. Chem. Soc. **2022**, 144, 20332–20341.
15. Y. Zhang, A. Vinogradov,<sup>‡</sup> J. Chang, Y. Goto, and H. Suga.<sup>‡</sup> *Solid-Phase-Based Synthesis of Lactazole-Like Thiopeptides*. Org. Lett. **2022**, 24, 7894–7899.
16. A. Vinogradov,<sup>‡</sup> J. Chang, H. Onaka, Y. Goto, and H. Suga.<sup>‡</sup> *Accurate Models of Substrate Preferences of Post-Translational Modification Enzymes from a Combination of mRNA Display and Deep Learning*. ACS Cent. Sci. **2022**, 8, 814–824.
17. A. Vinogradov,<sup>‡</sup> M. Nagano, Y. Goto, and H. Suga.<sup>‡</sup> *Site-Specific Nonenzymatic Peptide S/O-Glutamylation Reveals the Extent of Substrate Promiscuity in Glutamate Elimination Domains*. J. Am. Chem. Soc. **2021**, 143, 13358–13369.
18. A. Vinogradov,<sup>‡</sup> E. Nagai, J. Chang, K. Narumi, H. Onaka,<sup>‡</sup> Y. Goto,<sup>‡</sup> and H. Suga.<sup>‡</sup> *Accurate Broadcasting of Substrate Fitness for Lactazole Biosynthetic Pathway from Reactivity-Profiling mRNA Display*. J. Am. Chem. Soc. **2020**, 142, 20329–20334.

19. [A. Vinogradov](#), M. Shimomura, N. Kano, Y. Goto, H. Onaka, and H. Suga.<sup>‡</sup> *Promiscuous Enzymes Cooperate at the Substrate Level En Route to Lactazole A*. J. Am. Chem. Soc. **2020**, 142, 13886–13897.
20. [A. Vinogradov](#),<sup>†</sup> M. Shimomura,<sup>†</sup> Y. Goto,<sup>‡</sup> T. Ozaki, S. Asamizu, Y. Sugai, H. Suga,<sup>‡</sup> and H. Onaka.<sup>‡</sup> *Minimal lactazole scaffold for in vitro thiopeptide bioengineering*. Nat. Commun. **2020**, 11, 2272.
21. O. Bondarenko,<sup>‡</sup> [A. Vinogradov](#), A. Komarov, G. Karetnikov, N. Zyk, T. Holt, and A. Kutateladze. *Access to 5-fluoroisoxazoles via the nitrosation of geminal bromo-fluoro arylcyclopropanes*. Tetrahedron. **2019**, 75, 2861–2865.
22. S. Fleming, T. Bartges, [A. Vinogradov](#), C. Kirkpatrick, Y. Goto, H. Suga, L. Hicks, and A. Bowers.<sup>‡</sup> *Flexizyme-Enabled Benchtop Biosynthesis of Thiopeptides*. J. Am. Chem. Soc., **2019**, 141, 758–762.
23. Z. Gates,<sup>‡</sup> [A. Vinogradov](#), A. Quartararo, A. Bandyopadhyay, Z.-N. Choo, E. Evans, K. Halloran, A. Mijalis, S. Mong, M. Simon, E. Standley, E. Styduhar, S. Tasker, F. Touti, J. Weber, J. Wilson, T. Jamison, and B. Pentelute.<sup>‡</sup> *Xenoprotein engineering via synthetic libraries*. Proc. Natl. Acad. Sci. U. S. A., **2018**, 115, E5298–E5306.
24. C. Zhang, P. Dai, [A. Vinogradov](#), Z. Gates, and B. Pentelute.<sup>‡</sup> *Site-Selective Cysteine–Cyclooctyne Conjugation*. Angew. Chem. Int. Ed. **2018**, 57, 6459–6463.
25. [A. Vinogradov](#),<sup>‡</sup> Z. Gates, C. Zhang, A. Quartararo, K. Halloran, and B. Pentelute.<sup>‡</sup> *Library Design-Facilitated High-Throughput Sequencing of Synthetic Peptide Libraries*. ACS Comb. Sci. **2017**, 19, 694–701.
26. M. Simon, Y. Maki, [A. Vinogradov](#), C. Zhang, H. Yu, Y.-S. Lin, Y. Kajihara, and B. Pentelute.<sup>‡</sup> *D-amino acid scan of two small proteins*. J. Am. Chem. Soc., **2016**, 138, 12099–12111.
27. [A. Vinogradov](#), Z.-N. Choo, K. Totaro, and B. Pentelute.<sup>‡</sup> *Macrocyclization of Unprotected Peptide Isocyanates*. Org. Lett. **2016**, 18, 1226–1229.
28. [A. Vinogradov](#), M. Simon, and B. Pentelute.<sup>‡</sup> *C-Terminal Modification of Fully Unprotected Peptide Hydrazides via in Situ Generation of Isocyanates*. Org. Lett. **2016**, 18, 1222–1225.
29. O. Bondarenko,<sup>‡</sup> [A. Vinogradov](#), A. Komarov, A. Smirnov, and N. Zyk. *Synthesis of 5-fluoro- and 5-bromoalkylisoxazoles via nitrosation of 1,1-dihalocyclopropanes with sulfur trioxide activated nitrosyl chloride*. J. Fluor. Chem. **2016**, 185, 201–205.
30. [A. Vinogradov](#), E. Evans, and B. Pentelute.<sup>‡</sup> *Total synthesis and biochemical characterization of mirror image barnase*. Chem. Sci. **2015**, 6, 2997–3002.
31. O. Bondarenko,<sup>‡</sup> [A. Vinogradov](#), P. Danilov, S. Nikolaeva, A. Gavrilova, and N. Zyk. *Nitrosation of 2-aryl-1,1-dibromocyclopropanes: synthesis of 3-aryl-5-bromoisoxazoles*. Tetrahedron Lett. **2015**, 56, 6577–6579.
32. S. Mong,<sup>†</sup> [A. Vinogradov](#),<sup>†</sup> M. Simon, and B. Pentelute.<sup>‡</sup> *Rapid Total Synthesis of DARPin pE59 and Barnase*. ChemBioChem **2014**, 15, 721–733.
33. M. Simon, P. Heider, A. Adamo, [A. Vinogradov](#), S. Mong, X. Li, T. Berger, R. Policarpo, C. Zhang, Y. Zou, X. Liao, A. Spokoyny, K. Jensen, and B. Pentelute.<sup>‡</sup> *Rapid Flow-Based Peptide Synthesis*. ChemBioChem **2014**, 15, 713–720.
34. V. Prituzhalov, E. Ardashnikova,<sup>‡</sup> [A. Vinogradov](#), V. Dolgikh, J.-J. Videau, E. Fargin, A. Abakumov, N. Tarakina, and G. Van Tendeloo. *New anion-conducting solid solutions Bi<sub>1-x</sub>Tex(O,F)<sub>2+δ</sub> (x > 0.5) and glass–ceramic materials on their base*. J. Fluor. Chem. **2011**, 132, 1110–1116.

## Review articles

35. A. Vinogradov<sup>‡</sup> and H. Suga.<sup>‡</sup> *Introduction to Thiopeptides: Biological Activity, Biosynthesis, and Strategies for Functional Reprogramming*. Cell Chem. Biol. **2020**, 27, 1032–1051.
36. A. Vinogradov, Y. Yin, and H. Suga.<sup>‡</sup> *Macrocyclic Peptides as Drug Candidates: Recent Progress and Remaining Challenges*. J. Am. Chem. Soc. **2019**, 141, 4167–4181.

## Book chapters

37. M. Simon, A. Mijalis, K. Totaro, D. Dunkelmann, A. Vinogradov, C. Zhang, Y. Maki, J. Wolfe, J. Wilson, A. Loas, and B. Pentelute.<sup>‡</sup> *Automated Fast Flow Peptide Synthesis*, in Total Chemical Synthesis of Proteins, John Wiley & Sons, **2021**, 17–58.
38. R. van Neer, A. Vinogradov, and H. Suga.<sup>‡</sup> *RaPID Discovery of Macrocyclic Peptide Inhibitors of Protein–Protein Interactions*, in Inhibitors of Protein–Protein Interactions, Royal Society of Chemistry, **2020**, 232–246.

## Patents and patent applications

1. H. Suga, H. Onaka, Y. Goto, and A. Vinogradov. *Compound library and method for producing compound library*. WO/2020/067550. International Application: PCT/JP2019/038431.
2. H. Suga, Y. Goto, A. Vinogradov, Y. Zhang, and J. S. Chang. *Compound Production Method*. International Application: PCT/JP2023/035472.
3. H. Suga, Y. Zhang, A. Vinogradov. *Compound synthesis and method for discovery of bicyclic ligands*. Application number: 25-0300-001.

## Invited presentations

1. *De novo discovery of functional macrocyclic peptides using post-translational modification enzymes*. 7<sup>th</sup> Annual Peptides and Proteins Society Singapore Symposium (P<sup>2</sup>S<sup>2</sup>-2025). December 9, 2025, Singapore.
2. *Accurate Models of Enzymatic Substrate Preferences from Ultra-High-Throughput Experimentation and Deep Learning*. AI For Science Forum. November 18, 2025, Singapore.
3. *De novo discovery of functional macrocyclic peptides using post-translational modification enzymes*. “Medicine meets Science” workshop. October 1, 2025, Singapore.
4. *Ultra-high-throughput profiling of RiPP enzyme specificities using mRNA display*. West China School of Pharmacy-NUS Mini-Symposium. July 17, 2025, Singapore.
5. *Quantitative ultra-high-throughput profiling of RiPP enzyme specificities using mRNA display*. Singapore Symposium on Natural Products and Biosynthetic Enzymes. July 14, 2025, Singapore.
6. *Ultra-high-throughput enzymology in chemical biology & drug discovery*. 2025 Global Young Scientist Summit. January 6, 2025, Singapore.
7. *Comprehensive analysis of substrate preferences of RiPP enzymes using mRNA display and deep learning*. 12th Singapore International Chemical Conference. December 10, 2024, Singapore.
8. *De novo discovery of natural product-like thiopeptides with designed biological activities*. TIDES Asia 2024. March 20, 2024, Kyoto, Japan.

9. *De novo discovery of functional natural product-like thiopeptides*. Invited seminar at NUS Pharmacy & Pharmaceutical Sciences. February 21, 2024, Singapore.
10. *De novo discovery of natural product-like thiopeptides with designed biological activities*. 36th Irsee Natural Product Symposium. February 15, 2024, Irsee, Germany.
11. *FIT-Laz: a platform for thiopeptide bioengineering*. 4th ETHZ-UTokyo Symposium, February 17, 2020, Zurich, Switzerland.
12. *Total synthesis of RNase B. a*. AstraZeneca Distinguished Graduate Fellowship Symposium. November 13, 2013, Waltham, USA.
13. *Transformations of mono- and mixed gem-dihalocyclopropanes under the nitrosation reaction conditions*. International young scientist conference "Lomonosov-2012". April 12, 2012, Moscow, Russia.

## Honors and Awards

2025	National Research Foundation Fellowship, Class of 2025
2024	Presidential Young Professor, National University of Singapore
2014	Amgen Summer Graduate Fellowship
2013	AstraZeneca Distinguished Graduate Fellowship
2012	<i>summa cum laude</i> at Moscow State University
2007	Bronze medal at the Regional (Yaroslavl oblast) Chemistry Olympiad
2006	Gold medal at the Regional (Yaroslavl oblast) Astronomy Olympiad
2006	Winner of a "Student of the Year" municipal contest

## Teaching

	Course	Program	Dates	Students
24.	PR5227: AI in Pharmaceutical Applications	MPST, NUS	2026 Spring	107
23.	PHS2191: Laboratory Techniques in Pharmaceutical Science I	PHS, NUS	2026 Spring	56
22.	Organic Chemistry I	GSC, UTokyo	2024 Fall	4
21.	Organic Chemistry III	Chem., UTokyo	2024 Summer	42
20.	Special Topics in Organic Chemistry II	Chem., UTokyo	2024 Summer	13
19.	Laboratory work in Organic Chemistry	Chem., UTokyo	2024 Summer	42
18.	Practice in Organic Chemistry	Chem., UTokyo	2024 Spring	~15
17.	Organic Chemistry I	GSC, UTokyo	2023 Fall	~5
16.	Laboratory work in Organic Chemistry	Chem., UTokyo	2023 Summer	~50
15.	Practice in Organic Chemistry	Chem., UTokyo	2023 Spring	~15
14.	Organic Chemistry I	GSC, UTokyo	2022 Fall	~5
13.	Laboratory work in Organic Chemistry	Chem., UTokyo	2022 Summer	~50

12.	Practice in Organic Chemistry	Chem., UTokyo	2022 Spring	~15
11.	Organic Chemistry I	GSC, UTokyo	2021 Fall	~5
10.	Laboratory work in Organic Chemistry	Chem., UTokyo	2021 Summer	~50
9.	Practice in Organic Chemistry	Chem., UTokyo	2021 Spring	~15
8.	Organic Chemistry I	GSC, UTokyo	2020 Fall	~5
7.	Laboratory work in Organic Chemistry	Chem., UTokyo	2020 Summer	~50
6.	Practice in Organic Chemistry	Chem., UTokyo	2020 Spring	~15
5.	Laboratory work in Organic Chemistry	Chem., UTokyo	2019 Summer	~50
4.	Organic Chemistry I	GSC, UTokyo	2019 Fall	~5
3.	Organic Chemistry I [Teaching Assistant]	Chem., MIT	2013 Fall	~30
2.	General Chemistry II [Teaching Assistant]	Chem., MIT	2013 Spring	~30
1.	General Chemistry I [Teaching Assistant]	Chem., MIT	2012 Fall	~30

## Mentored students and postdocs

	<b>Name</b>	<b>Dates</b>	<b>Institution</b>	<b>Position/Position after</b>
	<b>Current group</b>			
1.	Wai Lun Chan	2025–	NUS	Postdoctoral fellow
2.	Siddhant Dhingra	2025–	NUS	Postdoctoral fellow
3.	Yulong Lu	2025–	NUS	Ph.D. student
4.	Chi Song	2025–	NUS	Ph.D. student
5.	Li Quan Koh	2026–	NUS	Ph.D. student
6.	Zhuojin Zou	2025–	NUS	M.Sc. student
7.	Zhipeng Li	2025–	NUS	M.Sc. student
8.	Kaiwen Cui	2025–	NUS	Research Assistant
9.	Joshua Yong	2025–	NUS	B.Sc. student
10.	Yin Sun	2022–	UTokyo	Ph.D. student
11.	Luca Danieli	2021–	UTokyo	Ph.D. student
12.	Shih-Yu Pan	2023–	UTokyo	M.Sc. student
	<b>Ph.D. students</b>			
13.	Eu Tchen Ang	2022–2026, Ph.D.	UTokyo	Postdoctoral researcher at UTokyo
14.	Yuto Ohno	2019–2025, Ph.D.	UTokyo	Scientist at Daiichi Sankyo
15.	Jun Shi Chang	2020–2024, Ph.D.	UTokyo	Scientist at Dayra Therapeutics

### **B.Sc. students**

16. Eric Jensen	2024–2025	UTokyo	Ph.D. student at University of Chicago
17. Songlin Tian	2023	UTokyo	M.Sc. student at University of Tokyo
18. Soichiro Nishio	2021–2022	UTokyo	M.Sc. student at University of Tokyo
19. Takumi Wake	2020–2022	UTokyo	3D modelling and engineering
20. Tang Chi	2021	UTokyo	M.Sc. student at ETH Zurich
21. Zi-Ning Choo	2014–2016	MIT	M.D.–Ph.D. student at Cornell University

### **Interns**

22. Ruobing Zhou	2025	NUS	from Jilin University
23. Simon Mürter	2023–2025	UTokyo	from ETH Zurich
24. Harry King	2020, 2022	UTokyo	from Cambridge University
25. Maxwell Sigal	2019	UTokyo	from Northwestern University
26. Yunxiang Du	2019	UTokyo	from Tsinghua University
27. Nassim Maarouf	2019	UTokyo	from Université de Montréal
28. I-Hsuan Lin	2019	UTokyo	from UTokyo
29. Ekaterina Nomerotskaia	2018	UTokyo	from Moscow State University

### **Professional activities and service**

Journal peer review

Nature Chemistry  
Nature Communications  
Journal of the American Chemical Society  
Angewandte Chemie  
ACS Central Science  
ACS Catalysis  
Chemical Science  
Nano Letters  
PLOS Computational Biology  
Current Drug Delivery  
Journal of Medicinal Chemistry  
Journal of Organic Chemistry  
Biomacromolecules  
Bioorganic and Medicinal Chemistry  
ChemBioChem  
Communications Chemistry  
Israel Journal of Chemistry

Review for funding agencies

Ad hoc reviewer for Austrian Science Fund (2021 – 2022)

Commentary articles

For Bioscience and Industry magazine (バイオサイエンスとインダストリー) in *B&I* 2024, 82, 312; 2024

	For SPring-8/SACLA Synchrotron Radiation facility in <i>Spring-8/SACLA Research Frontiers 2023; 2024</i>
	For the University of Tokyo School of Science News in <i>School of Science Observations; 2019</i>
Conference organization	Organizing committee, 7 <sup>th</sup> Annual Peptides and Proteins Society Singapore Symposium (P <sup>2</sup> S <sup>2</sup> -2025). December 8–9, 2025, Singapore
PhD Thesis Committees	<u><i>PhD Defence Examiner:</i></u> Tooh Yi Wei (Apr 2025)
	<u><i>PhD Advisory Committee:</i></u> Zhang Shuyun (Dec 2025–) Chen Wei Meng (Nov 2025–)
	<u><i>PhD Qualifying Exam Examiner:</i></u> Su Jinya (Apr 2025; QE1) Cao Yuan (Apr 2025; QE2) Winnie Teo (Apr 2025; QE2) Koh Ting Sween Kenny (Nov 2025; QE2)
Departmental Service	Ad hoc interviewer for aptitude-based admissions (2025) UROPS research project examiner (2025–) PR5299 MPST research project examiner (2025–)

## Attracted research funding

2025 – 2030	<i>Ultra-high-throughput enzymology with ensembles of single molecules</i> From: National Research Foundation, Singapore Role: Principal Investigator Funding: S\$3,174,861 (including indirect costs) Grant number: NRF-NRFF17-2025-0005
2024 – 2029	<i>A general platform for ultra-high-throughput substrate profiling of PTM enzymes</i> From: NUS Presidential Young Professorship Role: Principal Investigator Funding: S\$1,250,000 (excluding indirect costs)
2022 – 2024	<i>Accurate analysis of PTM enzymes with an mRNA display/deep learning platform</i> From: Japan Society for the Promotion of Science, Scientific research (B) Role: Principal Investigator Funding: ¥17,290,000 (including indirect costs) Grant number: 22H02218, 23K23485
2020 – 2021	<i>Characterization of novel biosynthetic gene clusters for combinatorial synthesis of thiopeptides</i> From: Japan Society for the Promotion of Science, Early-Career Scientists Role: Principal Investigator Funding: ¥4,160,000 (including indirect costs) Grant number: 20K15407

## **Professional society memberships**

2025 – Peptides and Proteins Society (Singapore), member  
2025 – NUS Artificial Intelligence Institute, affiliate  
2013 – 2015 American Chemical Society, member

## **Extracurricular**

2025 – Scientific advisor to Anomaly Bio  
2024 – Founding advisor to Dayra Therapeutics  
2023 Consultant for Syneron Tech