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学歴・職歴

2010年3月	静岡県立大学薬学部卒業
2012年3月	東京大学大学院薬学系研究科修士課程修了
2014年3月	東京大学大学院薬学系研究科博士課程中退
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2016年1月	博士（薬科学）・東京大学
2016年4月	ETH Zürich, Department of Chemistry and Applied Biosciences Prof. Donald Hilvert・博士研究員
2018年1月	東京大学大学院薬学系研究科・助教（復職）
2020年11月	JST 戦略的創造研究推進事業さきがけ「革新的植物分子デザイン」研究者（兼任）
2023年4月	JST 創発的研究支援事業（水島パネル）研究者（兼任）
2023年4月	東京大学大学院薬学系研究科・准教授、現在に至る

受賞歴

2015年6月	日本薬学会 生薬天然物部会奨励賞
2018年5月	酵素工学会 酵素工学奨励賞
2018年6月	日本生薬学会 学術奨励賞
2019年2月	第35回 井上研究奨励賞
2021年6月	第22回 酵素応用シンポジウム 研究奨励賞
2022年3月	日本薬学会 奨励賞
2022年7月	第21回 天然物化学談話会 奨励賞
2023年4月	科学技術分野の文部科学大臣表彰 若手科学者賞
2023年10月	第65回 天然有機化合物討論会 奨励賞
2024年2月	第16回 井上リサーチアワード

学術論文リスト

1. **Mori, T.,*** *et al.*, “TBA.” *Nature Catalysis*, in revision (2024)
*co-corresponding author
2. Ushimaru, R., **Mori, T.,** *et al.*, “TBA.” *Nature Catalysis*, in revision (2024)
3. Awakawa, T., **Mori, T.,** *et al.*, “TBA.” *Nature Catalysis*, in revision (2024)

4. **Mori, T.**,* Kadlcik, S., Lyu, S., Kamenik, Z., Sakurada, K., Mazumdar, A., Wang, H., Janata, J., Abe, I.* “Molecular basis for carrier protein-dependent amide bond formation in the biosynthesis of lincosamide antibiotics.” **Nature Catalysis** 6, 531-542 (2023)
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5. **Mori, T.**,* Sun, X., Kadlcik, S., Janata, J., Abe, I.* “Structure-function analysis of the S-glycosylation reaction in lincosamide antibiotics biosynthesis.” **Angew. Chem. Int. Ed.** 62, e202304989 (2023)
***co-corresponding author**
6. Ushimaru, R., Cha, L., Shimo, S., Li, X., Paris, J., **Mori, T.**, Miyamoto, K., Coffey, L., Uchiyama, M., Guo, Y., Chang, W.-c., Abe, I. “Mechanistic analysis of the stereodivergent nitroalkane cyclopropanation catalyzed by nonheme iron enzymes.” **J. Am. Chem. Soc.** 145, 24210-24217 (2023)
7. Ushimaru, R., Ding, Y., **Mori, T.**, Miyamoto, K., Uchiyama, M., Abe, I. “Structural and mechanistic insights into the C–C bond forming rearrangement reaction catalyzed by heterodimeric hinokiresinol synthase.” **J. Am. Chem. Soc.** 145, 21966-21973 (2023)
8. Tao, H.,† Lauterbach, L.,† Bian, G.,† Chen, R.,† Hou, A.,† **Mori, T.**,† Cheng, S., Hu, B., Lu, L., Mu, X., Li, M., Adachi, N., Kawasaki, M., Moriya, T., Senda, T., Wang, X., Deng, Z., Abe, I.,* Dickschat, J. S.,* Liu, T.* “Discovery of non-squalene triterpenes.” **Nature** 606, 414-419 (2022)
†co-first author
9. Tao, H.,† **Mori, T.**,†,* Chen, H., Lyu, S., Nonoyama, A., Lee, S., Abe, I.* “Molecular insights into the unusually promiscuous and catalytically versatile Fe(II)/ α -ketoglutarate-dependent oxygenase SptF.” **Nature Commun.** 13, Article number: 95 (2022)
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10. Tao, H., Ushimaru, R., Awakawa, T., **Mori, T.**, Uchiyama, M., Abe, I. “Stereoselectivity and substrate specificity of the Fe(II)/ α -ketoglutarate-dependent oxygenase TqaL.” **J. Am. Chem. Soc.** 144, 21512-21520 (2022)
11. Li, X., Chen, H.-P., Zhou, L., Fan, J., Awakawa, T., **Mori, T.**, Ushimaru, R., Abe, I., Liu, J.-K., “Cordycicadins A–D, antifeedant polyketides from the entomopathogenic fungus *Cordyceps cicadae* JXCH1.” **Org. Lett.** 24, 8627-8632 (2022)
12. **Mori, T.**,* Nakashima, Y., Chen, H., Hoshino, S., Mitsuhashi, T., Abe, I.* “Structure-based redesign of Fe(II)/2-oxoglutarate-dependent oxygenase AndA to catalyze spiro-ring formation.” **Chem. Commun.** 58, 5510-5513 (2022)
***co-corresponding author**
13. **Mori, T.**,* Yu, Z., Tao, H., Abe, I.* “Rational engineering of the non-heme iron- and 2-oxoglutarate-dependent oxygenase SptF.” **Org. Lett.** 24, 1737-1741 (2022)
***co-corresponding author**

14. Wang, X.-H., Gao, B.-W., Nakashima, Y., **Mori, T.**, Zhang, Z.-X., Kodama, T., Lee, Y.-E., Zhang, Z.-K., Wong, C.-P., Liu, Q.-Q., Qi, B.-W., Wang, J., Li, J., Liu, X., Abe, I., Morita, H., Tu, P.-F., Shi, S.-P. "Identification of a diarylpentanoid-producing polyketide synthase revealing an unusual biosynthetic pathway of 2-(2-phenylethyl)chromones in agarwood." *Nature Commun.* 13, Article number: 348 (2022)
15. **Mori, T.**, Kumano, T., He, H., Watanabe, S., Senda, M., Moriya, T., Adachi, N., Hori, S., Terashita, Y., Kawasaki, M., Hashimoto, Y., Awakawa, T., Senda, T., Abe, I., Kobayashi, M. "C-Glycoside metabolism in the gut and in nature: identification, characterization, structural analyses and distribution of C-C bond-cleaving enzymes." *Nature Commun.* 12, Article number: 6294 (2021)
16. **Mori, T.**,* Zhai, R., Ushimaru, R., Matsuda, Y., Abe, I.* "Molecular insights into the endoperoxide formation by Fe(II)/ α -KG-dependent oxygenase Nvfl." *Nature Commun.* 12, Article number: 4417 (2021)
***co-corresponding author**
17. Li, X., Awakawa, T., **Mori, T.**, Ling, M., Hu, D., Wu, B., Abe, I. "Heterodimeric non-heme iron enzymes in fungal meroterpenoid biosynthesis." *J. Am. Chem. Soc.* 143, 21425-21432 (2021)
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†co-first author, *co-corresponding author
19. Bunno, T., Awakawa, T., **Mori, T.**, Abe, I. "Aziridine formation by a Fe(II)/ α -ketoglutarate dependent oxygenase and 2-aminoisobutyrate biosynthesis in fungi." *Angew. Chem. Int. Ed.* 60, 15827-15831 (2021)
20. Tao, H., **Mori, T.**, Wei, X., Matsuda, Y., Abe, I. "One polyketide synthase, two distinct products: trans-acting enzyme-controlled product divergence in calbistrin biosynthesis." *Angew. Chem. Int. Ed.* 60, 8551-8858 (2021)
21. Basler, S., Studer, S., Zou, Y., **Mori, T.**, Ota, Y., Camus, A., Bunzel, H. A., Helgeson, R. C., Houk, K. N., Jiménez-Osés, G., Hilvert, D. "Efficient Lewis acid catalysis of an abiological reaction in a de novo protein scaffold." *Nature Chemistry*, 11, 231-235 (2021)
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23. **Mori, T.**,* Wanibuchi, K., Morita, H., Abe, I.* "Amide bond formation using 4-coumarate:CoA ligase from *Arabidopsis thaliana*." *Chem. Pharm. Bull.* 69, 717-720 (2021)
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25. Matsuda, K., Zhai, R., **Mori, T.**, Kobayashi, M., Sano, A., Abe, I., Wakimoto, T. "Heterochiral coupling in non-ribosomal peptide macrolactamization." *Nature Catalysis* 3, 507-515 (2020)
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†co-first author
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29. Macdonald, D. S., Garrabou, X., Klaus, C., Verez, R., **Mori, T.**, Hilvert, D. "Engineered artificial carboligases facilitate regioselective preparation of enantioenriched aldol adducts." *J. Am. Chem. Soc.* 142, 10250-10254 (2020)
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43. Matsuda, Y., Iwabuchi, T., Fujimoto, T., Awakawa, T., Nakashima, Y., **Mori, T.**, Zhang, H., Hayashi, F., Abe, I. "Discovery of key dioxygenases that diverged the paraherquonin and acetoxhydroaustin pathways in *Penicillium brasilianum*" **J. Am. Chem. Soc.** 138, 12671-12677 (2016)
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46. Matsuda, Y., Mitsunashi, T., Lee, S., Hoshino, S., **Mori, T.**, Okada, M., Zhang, H., Hayashi, F., Fujita, M., Abe, I. "Astellifadiene, a unique tetracyclic fungal sesterterpene: structure determination by an NMR-coupled crystalline sponge method and elucidation of its biosynthesis." **Angew. Chem. Int. Ed.** 55, 5785-5788 (2016)

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54. Matsuda, Y., Wakimoto, T., **Mori, T.**, Awakawa, T., Abe, I. "Complete biosynthetic pathway of anditomin: nature's sophisticated synthetic route to a complex fungal meroterpenoid." **J. Am. Chem. Soc.** 136, 15326-15336 (2014)
55. Awakawa, T., Zhang, L., Wakimoto, T., Hoshino, S., **Mori, T.**, Ito, T., Ishikawa, J., Tanner, M. E., Abe, I. "A methyltransferase initiates terpene cyclization in teleocidin B biosynthesis." **J. Am. Chem. Soc.** 136, 9910-9913 (2014)
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58. **Mori, T.**, Shimokawa, Y., Matsui, T., Kinjo, K., Kato, R., Noguchi, H., Sugio, S., Morita, H., Abe, I. "Cloning and structure-function analyses of quinolone- and acridone-producing novel type III polyketide synthases from *Citrus microcarpa*." **J. Biol. Chem.** 288, 28845-28858 (2013)

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61. Morita, H., **Mori, T.**, Wanibuchi, K., Kato, R., Sugio, S., Abe, I. "Crystallization and preliminary X-ray analysis of 4-coumarate: CoA ligase from *Arabidopsis thaliana*." **Acta Cryst.** 67(Pt 3), 409-410 (2011)

著書・総説

1. **Mori, T.**, Abe, I. "Lincosamide antibiotics; structure, activity, and biosynthesis." **ChemBioChem** 25, e202300840 (2024)
2. **Mori, T.**, Abe, I. "Functional analysis of a fungal P450 enzyme." **Methods in Enzymology** 693, 171-190 (2023)
3. **Mori, T.**, "Functions, structures, and engineering of the teleocidin biosynthetic enzymes." **Chem. Pharm. Bull.** 71, 188-197 (2023)
4. Awakawa, T., **Mori, T.**, Ushimaru, R., Abe, I. "Structure-based engineering of α -ketoglutarate dependent oxygenases in fungal meroterpenoid biosynthesis." **Nat. Prod. Rep.** 40, 46-61 (2023)
5. **Mori, T.**, Nakashima, Y., Morita, Y., Abe, I. "Structure, function, and engineering of plant polyketide synthases." **Methods in Enzymology** 676, 3-48 (2022)
6. **Mori, T.**, Abe, I. "Structural basis for endoperoxide-forming oxygenases." **Beilstein J. Org. Chem.** 18, 707-721 (2022)
7. **Mori, T.**, "Enzymatic studies on aromatic prenyltransferases." **J. Nat. Med.** 75, 501-512 (2020)
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11. 森貴裕, 牛丸理一郎, 「これからの天然物化学に向けて」 **月刊ファインケミカル**, 51, 5-10 (2023)
12. 森貴裕, 阿部郁朗, 「酵素の立体構造を基盤にした新規生体触媒の開発」 **化学**, 73, 32-36 (2018)
13. 森貴裕, 阿部郁朗, 「結晶構造を基盤とした天然物の生合成酵素工学」 **化学工業**, 67, 56-61 (2016)
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15. 森貴裕, 脇本敏幸, 森田洋行, 阿部郁朗, 「植物ポリケタイド合成酵素による生物活性テトラミン酸誘導体の合成」, **バイオサイエンスとインダストリー**, 69, 308-310 (2011)