

Professor, Keio University (Japan)

Email: midori_arai@keio.jp

Website: <https://keiochembio.com/english/>

Social Media: <https://www.youtube.com/watch?v=zygfqzNaKsw>



Research Keywords

Natural products chemistry, Chemical biology, Organic chemistry

Academic Career

B.S., 1995, The University of Tokyo; Ph.D., 2000, The University of Tokyo (advisor: Masakatsu Shibasaki); Postdoctoral Training, 2000-2003, Osaka University (advisor: Hiroaki Sasai); 2001-2002, Harvard University (advisor: Stuart L. Schreiber); 2003-2004, RIKEN (advisor: Yukishige Ito); Assistant Professor, 2004-2006, Teikyo University; Associate Professor, 2006-2020, Chiba University; Professor, 2020-Present, Keio University

Selected Publications

Saito, S. et al. The Heat-Shock Metabolite Streptolactam D, Produced by High-Temperature Culture of *Streptomyces* sp. JA74, Promotes Thermotolerance via Self-Membrane Stabilization. *J. Am. Chem. Soc.*, 2025, 147, 15676-15685.

Ujje, Y. et al. Host-Pathogen Interaction Activated Biosynthesis of Natural Products" *J. Nat. Prod.* 2025, 88, 2204-2215.

Ujje, Y. et al. *Aspergillus terreus* IFM 65899-THP-1 cells interaction triggers production of the natural product butyrolactone Ia, an immune suppressive compound. *Sci. Rep.* 2024, 14, 28278.

Asano, Y. et al. Activation of secondary metabolism and protease activity mechanisms in the blackkoji mold *Aspergillus luchuensis* through co-culture with animal cells. *ACS Omega* 2024, 9, 43129-43137.

Saito, S. et al. Dihydromaniwamycin E, a Heat-Shock Metabolite from Thermotolerant *Streptomyces* sp. JA74, Exhibiting Antiviral Activity against Influenza and SARS-CoV-2 Viruses. *J. Nat. Prod.* 2022, 85, 2583-2591.

Arai, M. A. et al. Total synthesis of lindbladione, a Hes1 dimerization inhibitor and neural stem cell activator isolated from *Lindbladia tubulina*. *Sci. Rep.* 2020, 10, 21433.

Arai, M. A. et al. GLI1 inhibitors isolated by target protein oriented natural products isolation (TPO-NAPI) with hedgehog inhibition. *ACS Chem. Biol.* 2018, 13, 2551-2559.

Arai, M. A. et al. Hes1 inhibitor isolated by target protein oriented natural products isolation (TPO-NAPI) of differentiation activators of neural stem cells. *Chem. Sci.* 2016, 7, 1514-1520.

Why My Lab?

My lab can offer...

My lab can offer unique natural products, synthetic compounds, the skills of isolation and structure determination of natural products, the skills of organic chemistry and chemical biology.