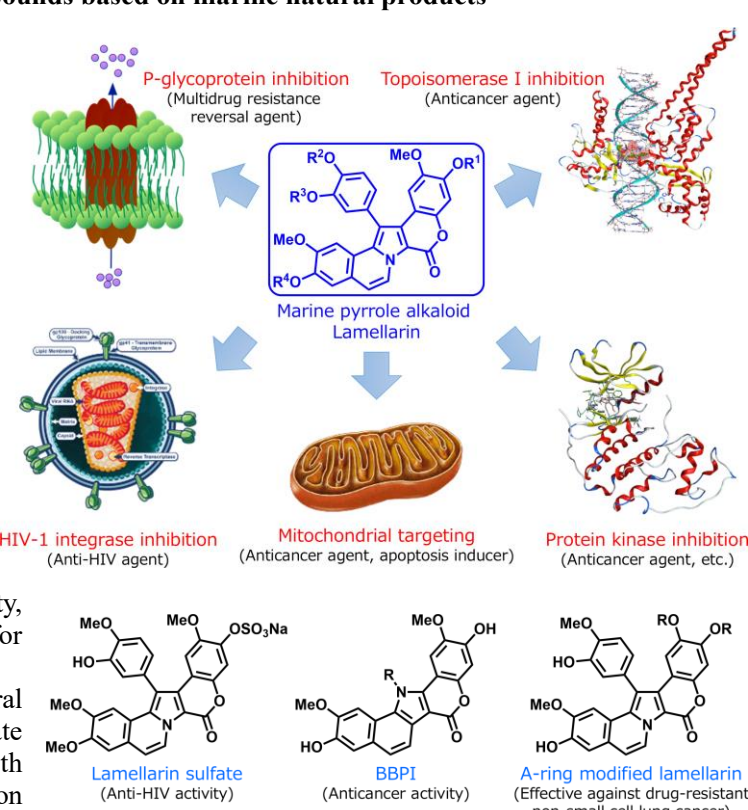


Name	Job Title	Area of Expertise
FUKUDA Tsutomu	Associate professor	Synthetic Organic Chemistry
1. Main Research Topics ① Development of bioactive compounds based on marine natural products Marine natural products contain a wide variety of bioactive compounds that are highly valuable for drug discovery. Our research focuses on the marine natural product “lamellarin,” aiming to develop novel pharmacologically active compounds by leveraging its unique structure and biological activities. Lamellarin was first isolated in 1985 by Faulkner and co-workers from a marine mollusk, <i>Lamellaria</i> sp. To date, over 70 related compounds have been reported. These compounds exhibit diverse biological activities, including topoisomerase I inhibition, protein kinase inhibition, and anti-HIV activity, making them promising candidates for pharmaceutical research. We have developed several derivatives, including lamellarin sulfate with anti-HIV activity, BBPI with anticancer activity based on topoisomerase I inhibition, and A-ring modified lamellarin effective against drug-resistant EGFR C797S mutant non-small cell lung cancer.  Selected publications: <i>Biosci. Biotechnol. Biochem.</i>, 87, 148 (2023); <i>Viruses</i>, 14, 816 (2022); <i>Cancer Sci.</i>, 112, 1963 (2021); <i>Bioorg. Med. Chem.</i>, 34, 116039 (2021); <i>Biosci. Biotechnol. Biochem.</i>, 85, 181 (2021); <i>Bioorg. Med. Chem.</i>, 27, 265 (2019)		
② Development of synthetic methods for drug discovery To realize the above research, efficient synthetic methods are essential. Lamellarin features a polycyclic heterocyclic structure containing a pyrrole ring. We are developing a modular synthesis method that enables the introduction of functional modules into the pyrrole ring, serving as a foundational technology for drug discovery. Selected publications: <i>Heterocycles</i>, 103, 862 (2021); <i>Heterocycles</i>, 99, 1032 (2019); <i>Heterocycles</i>, 98, 916 (2018)		
2. Keywords Lamellarin, Heterocyclic compounds, Antitumor active compounds		
3. Remarks and Websites Lamellarin derivatives are expected to be applied as antitumor agents. We are currently conducting collaborative research with other institutions to explore their potential applications in cancer therapy. The synthetic methods we have developed are applicable to a wide range of heterocyclic compounds containing pyrrole rings and are expected to contribute to the development of pharmaceuticals and functional materials. researchmap: https://researchmap.jp/t-fukuda Laboratory: http://www.cms.nagasaki-u.ac.jp/lab/yuuki/		