

2023 年度
創発的研究支援事業 年次報告書

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研究成果の概要

Due to the unexpected long delays in delivering both the benchtop NMR (February in 2023) and the AKTA FPLC system (March in 2023 for the main body, and July in 2023 for the fraction collector), the goals for FY2023 was reset to firstly achieve the research goals for FY2022 and then those for FY2023. Fortunately, these two instruments have since accelerated the progress of the experiments. First, chemical synthesis of initial chemicals has been achieved. For example, enough mono- and oligo- chemicals have been produced. These molecules have been coupled with desired linkers. Next, expression and purification of the carrier protein has been optimized and scaled up. Sufficient protein has been purified by using multiple columns. Coupling of the chemicals to the carrier protein is in progress. Hopefully, representative conjugates will be completed in sufficient amount for immunization in mouse. On the other hand, a better candidate for the hydrophobic moiety, namely a synthetic peptide, is to replace the initial design of hydrophobic moieties. A parallel automated peptide synthesizer has been set up. Two peptides have been synthesized. Coupling of these peptides to the chemicals is in progress. In the meantime, essential instruments for mouse experiments have been set up which include a E-Z anesthesia system, a gentleMACS™ Octo Dissociator with Heaters, an autoMACS Pro Separator, and a high-throughput BD FACSAarray System. Mouse experiments have been approved by Kagawa University. 2 pairs of young mice were purchased in January 2024 and set up as breeders to continuously produce mice for antiserum production and organ / tissue cell culture experiments. So far 16 pups have been produced in house. Immunization with initial conjugates will be set up in due course.