Realization of Common Platform Technology, Facilities, and Equipment that creates Innovative Knowledge and Products

Development of Highly Efficient Flow Synthesis Process for Functionalized Peptides

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Summary :

Final goal of this project is creation of future society in that functional peptides (<15 residues) can be produced 10 kg / day using large refrigerator-size peptide synthesis systems at 1/50 cost compared with present process.

In order to achieve the final aim, we develop micro-flow peptide synthesis process based on the amidation of protection-free amino acids (yield ≥80%, racemization ≤ 1%).

In addition, we develop micro-flow peptide synthesis system that produce products 1 kg / day and rapid reaction condition optimization system. We will examine these technology can halve the cost, amount of waste, and time for peptide production compared with the present process.