August 13, 2021
FunPep Co., Ltd.

FunPep Signs Joint Research Agreement for a Next-generation Drug Formulation Technology for Antibody Inducing Peptides Using Microneedle Array Patch

On August 13, MEDRx Co., Ltd (Head office: Higashikagawa, Kagawa; hereafter “MEDRx”) and FunPep Co., Ltd. (Head office: Ibaraki, Osaka; hereafter “FunPep”) have signed a joint research agreement for the purpose of developing a next-generation drug formulation technology for antibody inducing peptides using microneedle array patch.

A microneedle array patch (MAP) consists of tiny needles only a few hundred microns long that are made of a biodegradable resin. MAP allows individuals to give themselves painless injections of peptide drugs, vaccines and other substances that must be injected. In addition, MAP has attracted much attention as a promising injection method for vaccines and immune disease drugs that produces even greater immunity than a conventional injection does. The MEDRx MAP technology uses ultra-sharp edges of the needles and an applicator with a specially designed physical stress control mechanism (insertion device) for the easy and secure administration of drugs and vaccines.

FunPep is working on the development of antibody inducing peptides with the goal of creating a peptide vaccine for treating diseases by inducing the production of antibodies within the human body. This approach differs from antibody drugs produced using biopharmaceutical manufacturing equipment. The cost of producing an antibody inducing peptide is low because the peptide can be manufactured as a chemical compound. In addition, after administration, immune cells continuously produce antibodies for a certain length of time. As a result, this peptide can probably be administered at long intervals.
FunPep is conducting exploratory research on antibody inducing peptides, taking advantage of its proprietary drug discovery platform technology using AJP001 functional peptide resulting from a research program of the Graduate School of Medicine of Osaka University. The goal of this research is the creation of antibody inducing peptides for treating chronic disorders such as inflammatory diseases and allergies. Drug development activities thus far have succeeded at creating antibody inducing peptides that targets the IL-17A protein (FPP003), the IgE protein (FPP004) and the IL-23 protein (FPP005).

As part of this joint research project, FunPep is considering the use of the MEDRx microneedle array as a next-generation drug formulation technology for the antibody inducing peptides that FunPep is currently developing as an injectable drug.