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Hokkaido University
PassPort Technologies, Inc.

Hokkaido University and PassPort Technologies initiate joint research to develop a brain-penetrating peptide drug for Alzheimer's disease using a transdermal drug delivery system

Expecting early clinical application of a ground-breaking drug discovery innovation generated by Hokkaido University and administered via a novel delivery technology

Professor Toshiharu Suzuki and Assistant Professor Saori Haneda (Department of Neuroscience, Hokkaido University Graduate School of Pharmaceutical Sciences) and PassPort Technologies, Inc. (President and CEO: Tomoyuki Fujisawa, California, USA) ("PPTI") have initiated a joint research project to develop new therapeutics for the treatment of Alzheimer's disease.

Alzheimer's disease ("AD") accounts for about 70% of people who suffer from dementia. As one of the most serious diseases in modern society, it is estimated that AD will afflict 100 million people worldwide by 2050. While the understanding of AD pathogenesis has progressed through research efforts of many universities and pharmaceutical companies around the world, including Hokkaido University, fundamental therapeutics have not been successfully developed into practice.

After completing a long-term study of the amyloid cascade hypothesis, Professor Suzuki et al., discovered a membrane protein, Alcadin, with strong scientific evidence as a mechanism of AD onset. Alcadin plays an important role in the expression of neuronal function in the brain. A peptide subsequently derived from Alcadin β , p3-Alc β , has confirmed therapeutic effects in an AD animal model. In this joint research project, both parties aim to create new fundamental AD therapeutics by combining PPTI's proprietary transdermal drug delivery technology (the PassPort[®] System), with the p3-Alc β peptide.

The PassPort[®] System is an innovative transdermal drug delivery platform developed exclusively by PassPort Technologies. The system combines microporation technology that painlessly creates micropores on the skin surface and patch formulation technology that controls drug absorption through the micropores. By using the PassPort[®] System, it is now possible for the transdermal administration of drugs that have previously been limited to injections or infusions. Unlike conventional transdermal patches that are only applicable to low molecular weight drugs, PassPort[®] can also deliver other modalities such as medium molecular weight drugs (including peptides and oligonucleotides) and macromolecular biopharmaceuticals (such as proteins).

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