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(Securities code: 7777; TSE Growth Market)
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**Collaborative Research with Harvard Drives Regenerative Medicine Breakthrough:
3-D Matrix Peptide Technology Published in *Science***

3-D Matrix, Ltd. (Head Office: Chiyoda-ku, Tokyo; President: Jun Okada; hereinafter, “the Company”) has been engaged in the development of medical products based on its proprietary self-assembling peptide technology. In the field of regenerative medicine, the Company has been promoting collaborative research with leading academic institutions worldwide.

We are pleased to announce that the results of our joint research with Harvard University, employing the Company’s self-assembling peptide “RADA16,” was recently published in the internationally renowned scientific journal *Science*. This publication marks a groundbreaking advancement in addressing fundamental challenges in cardiac regenerative therapy.

Conventional transplantation of iPSC-derived cardiomyocytes has been hindered by the occurrence of life-threatening arrhythmias caused by abnormal automaticity (spontaneous contraction) of the transplanted cells. In this study, we successfully suppressed this arrhythmogenic automaticity through co-administration of the Company’s self-assembling peptide.

Furthermore, using a technology of flexible nanoelectronics, we were the first in the world to visualize how transplanted cells electrically integrate and synchronize with host cardiac tissue. In addition, the study demonstrated that the peptide significantly accelerated the maturation of the transplanted cells, shifting their gene expression profile from a fetal-like to an adult-like state, and markedly enhanced the organization of sarcomeres, the contractile units of cardiomyocytes.

In addition, functional vascularization, which was difficult to verify, was clearly confirmed. The transplanted tissue formed functional anastomoses with host vasculature, establishing a stable supply of oxygen and nutrients, which greatly improved cell survival. This technology is expected not only to accelerate the practical application of iPSC-based therapies for heart disease, but also to drive progress in regenerative medicine for various tissues requiring vascularization.

This research was conducted within the existing development budget and will have no impact on our full-year financial forecast or our current mid-term business plan. The Company will continue to collaborate globally with leading academic institutions to contribute to solving unmet medical needs and to bring new medical value to society through innovation in regenerative medicine.

The full research article is available in the online edition of the journal Science:

<https://pubmed.ncbi.nlm.nih.gov/41100583/>

Aoyama J., *et al.* “*Flexible Nanoelectronics Reveal Arrhythmogenesis in Transplanted Human Cardiomyocytes*”