PRESS RELEASE

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FOR IMMEDIATE RELEASE

52-Week Topline Results of Phase I/II Clinical Trial (LAPiS study) for Allogeneic iPS cell-derived Cardiomyocyte Spheroids (HS-001) Presented in Invited Lecture at ESC Congress 2026

TOKYO, JAPAN, August 31, 2026 - Heartseed Inc. (Headquarters: Minato-ku, Tokyo; CEO: Keiichi Fukuda; hereinafter referred to as "Heartseed") hereby announces that the 52-week topline results of the Phase I/II clinical trial in Japan (LAPiS study; hereinafter the "study") for its lead pipeline, allogeneic iPS cell-derived cardiomyocyte spheroids (development code: HS-001; hereinafter "HS-001"), were presented in an invited lecture at the ESC Congress 2026 (European Society of Cardiology Congress: August 28–31, 2026, Munich, Germany).

The target enrollment for the study was 10 patients, with 50 million cardiomyocytes transplanted in the first 5 patients and 150 million cardiomyocytes transplanted in the remaining 5 patients. In addition to safety up to 26 weeks post-transplantation as the primary endpoint, safety and efficacy up to 52 weeks post-transplantation were evaluated as secondary endpoints. A summary of the presented results is as follows:

Note that the development of HS-001 utilizes data obtained through the following support provided by Japan Agency for Medical Research and Development (AMED): Basic Technology Development Project for Industrialization of Regenerative Medicine and Gene Therapy (Support for Accelerating the Development of Regenerative Medicine Seeds) "Evaluation of Quality and Safety and Regulatory Affairs for Transitioning to Clinical Trials Toward the Industrialization of iPS cell-derived Regenerative Cardiomyocyte Transplantation Therapy" (Representative: Keiichi Fukuda) (FY2018-FY2020)

■ Primary Endpoint: Safety up to 26-week

No safety concerns were identified that would affect the Company’s plan for the application for manufacturing and marketing approval.

- Regarding ventricular arrhythmias, no events sustained for 30 seconds or longer, nor any requiring therapeutic intervention, were identified.
- One patient developed herpes zoster during the triple immunosuppressive therapy period, which resolved with treatment.

■ **Secondary Endpoints**

Favorable results supporting the Company's plan for the application for manufacturing and marketing approval were obtained across evaluation items including cardiac pump function and reduction in size of the enlarged heart, as well as indicators evaluating exercise tolerance and quality of life (QOL).

Indicators related to the reduction in size of the enlarged heart and cardiac pump function *1

Parameter (Week 0 → Week 52)	Low-dose cohort: 50M (n=5)	High-dose cohort: 150M (n=5)
LVEDVI (Left Ventricular End-Diastolic Volume Index) Mean change (Echocardiography)	141.1 → 122.2 mL/m²	134.5 → 119.2 mL/m²
Patients with maintained/reduced LVEDVI	4 / 5	4 / 5
LVEF (Left Ventricular Ejection Fraction) Mean change (Echocardiography)	25.0 → 31.0%	22.7 → 31.2%
Patients with maintained/increased LVEF	4 / 5	5 / 5

*1: Site-assessed data

Indicators related to exercise tolerance and quality of life (QOL) *2

Week 0 → Week 52	Low-dose cohort: 50M (n=5)	High-dose cohort: 150M (n=5)
KCCQ-OS (Evaluation of QOL & Symptoms) Mean change	66.0 pt → 62.7 pt	75.8 pt → 95.5 pt
Patients with maintained/increased scores	2 / 5	5 / 5
6-Minute Walk Test Mean change	374.5 m → 371.5 m	462.6 m → 500.2 m
Patients with increased walking distance	2 / 4 *3	4 / 5
NYHA Functional Class (New York Heart Association Functional Classification)	— *4	— *4
Patients with maintained/improved classification	5 / 5	5 / 5

*2: Site-assessed data

*3: One patient in the low-dose cohort was unable to perform the test (missing data), resulting in N=4 for this cohort.

*4: As NYHA classification is an ordinal scale, mean values were not calculated; only the number of patients showing maintenance or improvement by 1 or more stages post-procedure is presented.

About HS-001

HS-001, is an allogeneic iPS cell-derived, highly purified ventricular cardiomyocyte product formulated in spheroids. The micro-tissue-like spheroid preparation increases retention rate and viability of the cell graft compared to single cells. The spheroids are transplanted using a special administration needle

(SEEDPLANTER®) and guide adapter. The transplanted spheroids are expected to electrically couple with the patient's myocardium, improving cardiac output by remuscularization.

About LAPiS study

The LAPiS study is a 52-week, Phase 1/2, open-label, dose-escalation, multicenter study conducted in Japan in patients with advanced heart failure caused by ischemic heart disease. Cardiomyocyte spheroids are transplanted into the diseased heart during planned open-heart surgery (coronary artery bypass grafting). The study enrolled 10 patients across two dose cohorts of 50 million and 150 million cardiomyocytes. In addition to the primary endpoint of safety up to 26 weeks post-transplantation, secondary efficacy endpoints were evaluated. (jRCT registration number: jRCT2033210163, ClinicalTrials.gov registration number: NCT04945018)

About Heart Failure

Heart failure is a chronic, progressive condition in which the heart muscle is unable to pump enough blood and oxygen to meet the body's needs, commonly caused by ischemic heart disease or dilated cardiomyopathy. It affects approximately 1.2 million people in Japan and more than 65 million people globally, with the number of patients continuing to rise—a phenomenon often referred to as a "heart failure pandemic". Heart disease, including heart failure, is the second leading cause of death in Japan and the leading cause worldwide. Despite recent advances, therapies for severe heart failure primarily focus on symptom management. Aside from heart transplantation, there are no radical treatment options, and the development of innovative therapies for heart failure is urgently required.

About Heartseed

Heartseed Inc. was founded with the aim of realizing cardiac remuscularization therapy, and it was listed on the Tokyo Stock Exchange Growth Market in July 2024 (Stock Code: 219A). Heartseed has proprietary technologies throughout the entire manufacturing process of the cardiomyocyte cell product, including purification, cell delivery and iPS cell production.

To date, the Company has received numerous awards in Japan and internationally, including the Japan Venture Awards 2021 (Minister of Science and Technology Policy Award), the University Venture Awards 2021 (Minister of Education, Culture, Sports, Science and Technology Award), the Asia-Pacific Cell & Gene Therapy Excellence Awards (Most Promising Pipelines Award), the IP BASE AWARD (Startup Category Grand Prize) presented by the Japan Patent Office, the 7th Japan Medical Research and Development Award – Startup Award (January 2025), and the Intellectual Property Achievement Award – Minister of Economy, Trade and Industry Award (April 2025).

For more information, visit heartseed.jp, LinkedIn and YouTube.

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