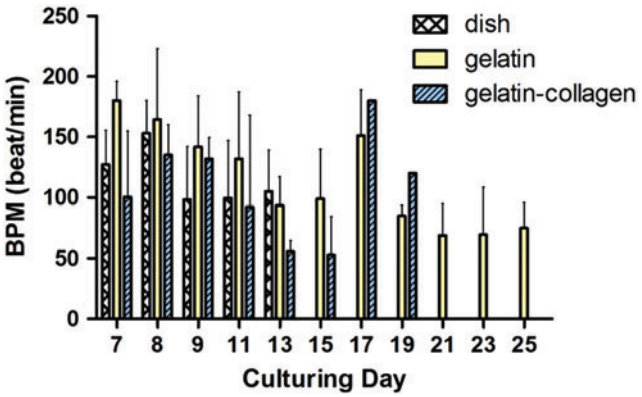
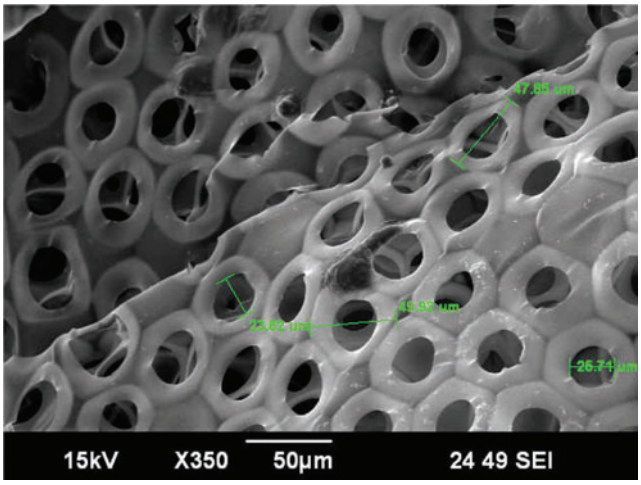
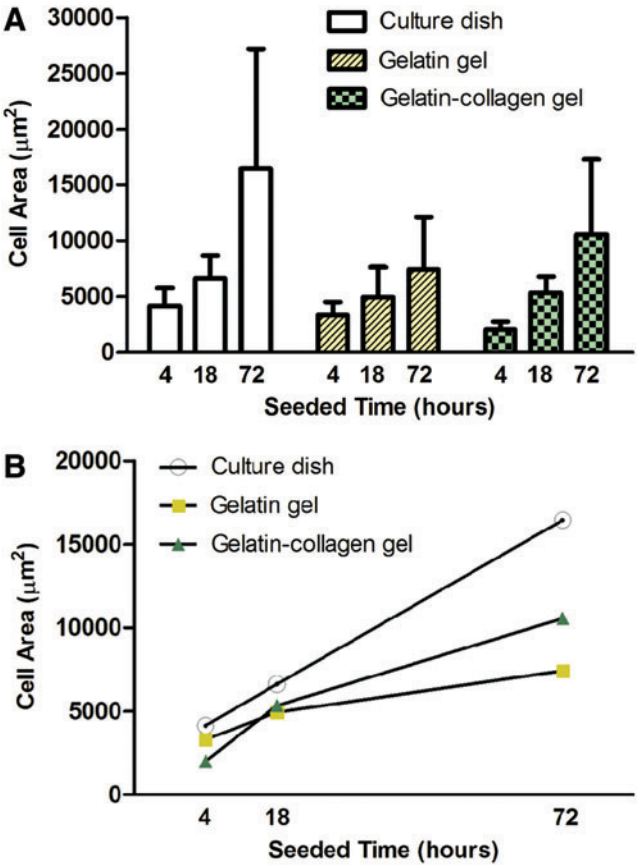
Supplementary Data



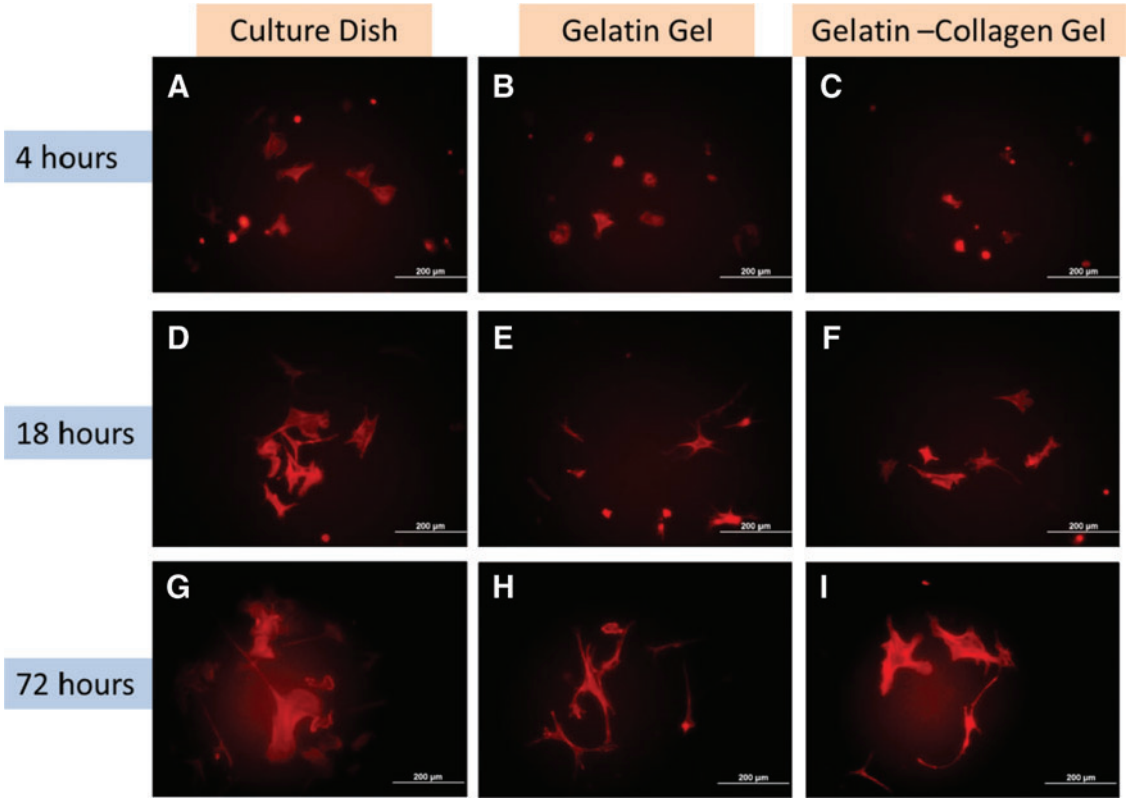
SUPPLEMENTARY FIG. S1. The beating per minute (BPM) of cardiomyocytes cultured in three-dimensional (3D) gelatin scaffold, 3D gelatin–collagen scaffold, and two-dimensional (2D) culture dish. According to this result, 3D gelatin scaffold could sustain the beating ability for more than 3 weeks; on the other hand, the conventional 2D culture method only could sustain the beating ability for less than 2 weeks *in vitro*.



SUPPLEMENTARY FIG. S2. The SEM image of the microbubbles. High mass transfer efficiency and pore size was deducted based on previous studies[40,41] as well as on SEM image provided. However, no precise experimental data are available in this article. SEM, scanning electron microscopy.



SUPPLEMENTARY FIG. S3. The spreading area of cardiomyocytes at different time points on culture plate, as control group, 2D gelatin gel, and 2D collagen–gelatin gel. **(A)** The same material, but different times. **(B)** The same time, but different materials.



SUPPLEMENTARY FIG. S4. The morphology of cardiomyocytes cultured in 2D culture dish, gelatin gel, and collagen–gelatin gel at different time points (4, 18, and 72 h). All cardiomyocytes were stained with phalloidin–TRITC. Left column **(A, D, G)** showed the culture dish group, middle column **(B, E, H)** showed the gelatin gel group, and right column **(C, F, I)** showed the gelatin–collagen gel group. Four hours' results **(A–C)** were revealed in the upper row, 18 h' results **(D–F)** were revealed in the middle row, and 72 h' results **(G–I)** were revealed in the lower row.