Supporting information

A 3D Bioprinted Adhesive Tissue Engineering Scaffold to Repair Ischemic Heart Injury

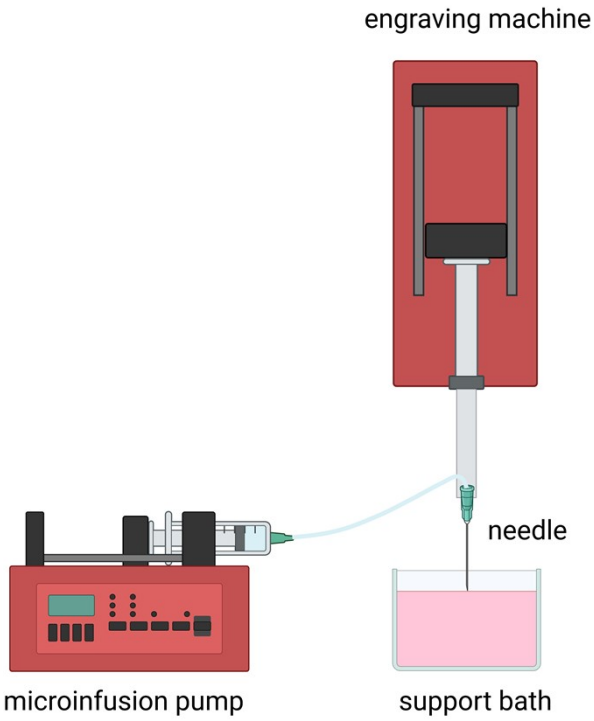
Shuai Chen[1], Lindan Tan[1], Vahid Serpooshan[2,3,4], and Haifeng Chen*[1]

[1] Department of Biomedical Engineering, College of Future Technology, Peking University, Beijing 100871, China
[2] Department of Biomedical Engineering, Emory University School of Medicine and Georgia Institute of Technology, Atlanta, GA 30322, USA
[3] Department of Pediatrics, Emory University School of Medicine, Atlanta, GA 30322, USA
[4] Children's Healthcare of Atlanta, Atlanta, GA 30322, USA

* Address for correspondence:
Haifeng Chen, Ph.D.
Department of Biomedical Engineering, College of Future Technology, Peking University, Beijing 100871 China
Phone: +86 10 62754396
Email: haifeng.chen@pku.edu.cn
Fax: +86 10 62754396

Experimental Procedures

The construction of 3D printing system: The 3D bio-printer is a customized set-up combined with an engraving machine to provide printing needle movement (FY-3030, Fangyuan, China), and a microinfusion pump to provide printing pressure (WZS-50F6, Zhejiang University Medical Instruments Co., Ltd, China).



SI Figure 1: Customized set-up of 3D printing system

The concentration of ingredients in the bio-ink and support bath: The formula of the hydrogel used for 3D printing is consistent for all of the groups throughout the manuscript, and is described in detail in the following table. Also, the ingredients in the support bath were listed as well.

SI Table 1: Concentration of each ingredient within the bio-ink

Ingredients	Concentration in double distilled water
HAMA-tyr	0.25%
gelatin	5%
GelMA	5%
horseradish peroxidase	10 U/ml
Lithium phenyl-2,4,6-trimethylbenzoylphosphinate (LAP)	0.25%

SI Table 2: Concentration of each ingredient within the support bath

Ingredients	Concentration in double distilled water
Carbopol	0.8%
genipin	0.75%
H202	2 mM