

## A Foreign Body Response-on-a-Chip Platform

*Fatemeh Sharifi<sup>†</sup>, Su Su Htwe<sup>†</sup>, Martina Righi<sup>#</sup>, Hua Liu<sup>#</sup>, Anna Peietralunga, Ozlem Yesil-Celiktas, Sushila Maharjan, Byung-Hyun Cha, Su-Ryon Shin, Mehmet Remzi Dokmeci, Nihal Engin Vrana, Amir M. Ghaemmaghami\*, Ali Khademhosseini\*, Yu Shrike Zhang\**

*F. Sharifi, Dr. M. Righi, Prof. H. Liu, A. Peietralunga, Prof. Dr. O. Yesil-Celiktas, Dr. S. Maharjan, Dr. B.-H. Cha, Dr. S.-R. Shin, Prof. M.R. Dokmeci, Prof. A. Khademhosseini, Prof. Y.S. Zhang\**

Division of Engineering in Medicine, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Cambridge, MA 02139

E-mail: [yszhang@research.bwh.harvard.edu](mailto:yszhang@research.bwh.harvard.edu)

*F. Sharifi*

School of Mechanical Engineering, Sharif University of Technology, Tehran, Iran

*Dr. N.E. Vrana*

INSERM, UMR-S 1121, "Biomatériaux et Bioingénierie", 67085 Strasbourg, France

Protip Medical, 67000 Strasbourg, France

Université de Strasbourg, Fédération de Médecine Translationnelle de Strasbourg, Fédération des Matériaux et Nanoscience d'Alsace (FMNA), Faculté de Chirurgie Dentaire, 67000 Strasbourg, France

*Dr. S.S. Hwte, Prof. A.M. Ghaemmaghami\**

Immunology and Immuno-bioengineering Group, School of Life Science, Faculty of Medicine and Health Sciences, University of Nottingham, Nottingham NG7 2RD, UK

E-mail: [amir.ghaemmaghami@nottingham.ac.uk](mailto:amir.ghaemmaghami@nottingham.ac.uk)

*Prof. Dokmeci, Prof. A. Khademhosseini\**

Center for Minimally Invasive Therapeutics (C-MIT), University of California-Los Angeles, Los Angeles, CA 90095, USA

Department of Radiology, David Geffen School of Medicine, University of California-Los Angeles, Los Angeles, CA 90095, USA

Department of Bioengineering, Department of Chemical and Biomolecular Engineering, Henry Samueli School of Engineering and Applied Sciences, University of California, Los Angeles, Los Angeles, CA 90095, USA

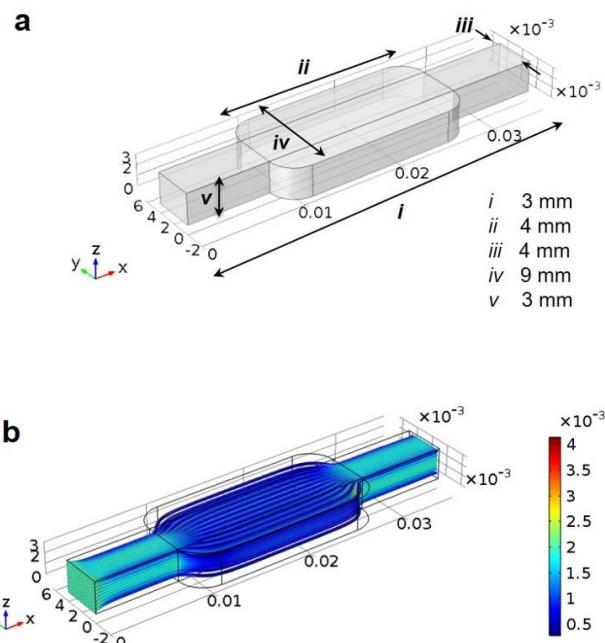
California NanoSystems Institute (CNSI), University of California, Los Angeles, Los Angeles, CA 90095, USA

Department of Bioindustrial Technologies, Konkuk University, Seoul, Republic of Korea

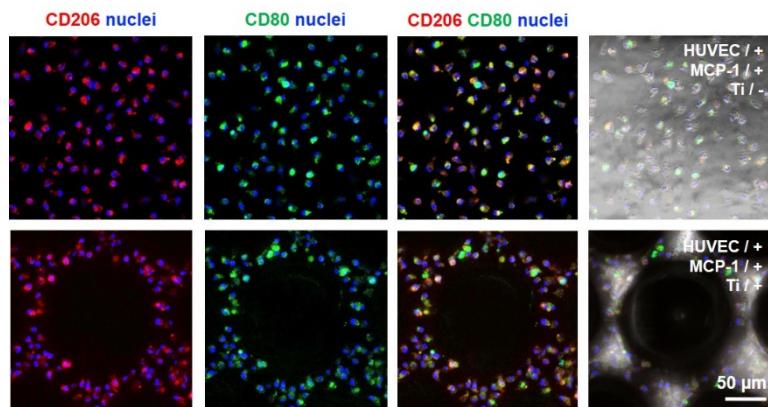
E-mail: [khademh@ucla.edu](mailto:khademh@ucla.edu)

<sup>†</sup> Equal contribution as first authors

<sup>#</sup> Equal contribution as second authors



**Fig. S1. Characterizations of the bioreactor.** A) Dimensions of the top vascular channel of the bioreactor. B) Flow velocity profiles in the vascular chamber of the bioreactor.



**Fig. S2. FBR of donor-derived monocytes to Ti microbeads.** CD206/CD80 expressions of activated monocytes at the bottom tissue chamber, in the absence or presence of Ti microbeads, under dynamic conditions with the release of MCP-1.