

2 **An integrated method for cell isolation and migration on a chip**

3 Xiaoqing Lv^{1,4}, Zhaoxin Geng^{2*}, Zhiyuan Fan^{1,4}, Shicai Wang³, WeiHua Pei¹ and Hongda Chen¹

4 ¹ State Key Laboratory of Integrated Optoelectronics, Institute of Semiconductors, Chinese Academy of Sciences,
5 Beijing, China

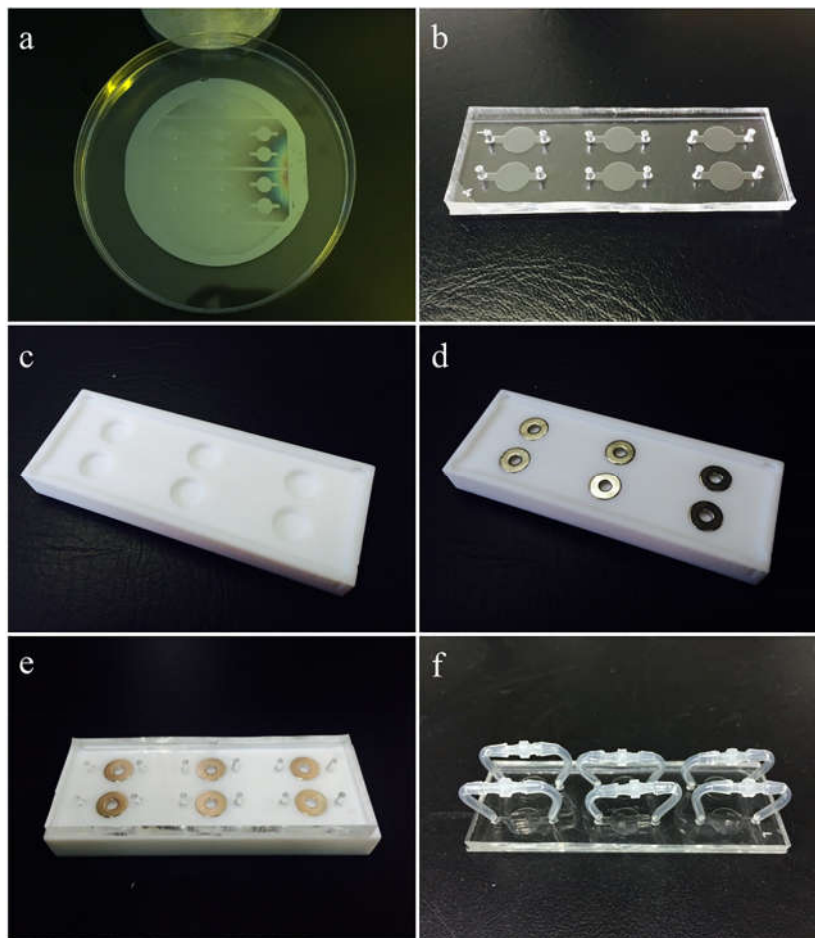
6 ² School of Information Engineering, Minzu University of China, Beijing, China

7 ³ State Key Laboratory of crystal materials, Shandong University, Jinan, China

8 ⁴ University of Chinese Academy of Sciences, Beijing, China

9 *corresponding author: Zxgeng@muc.edu.cn

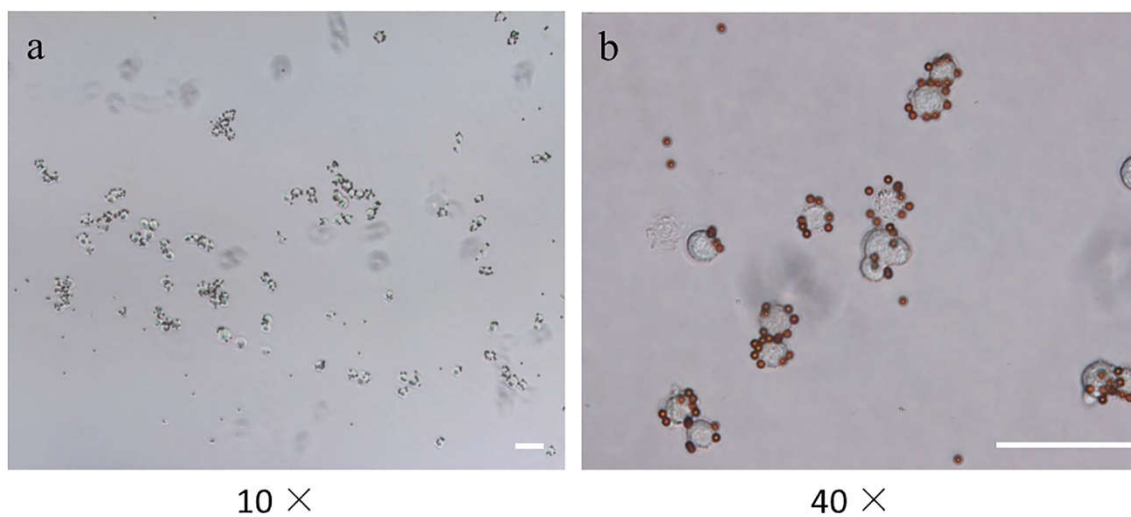
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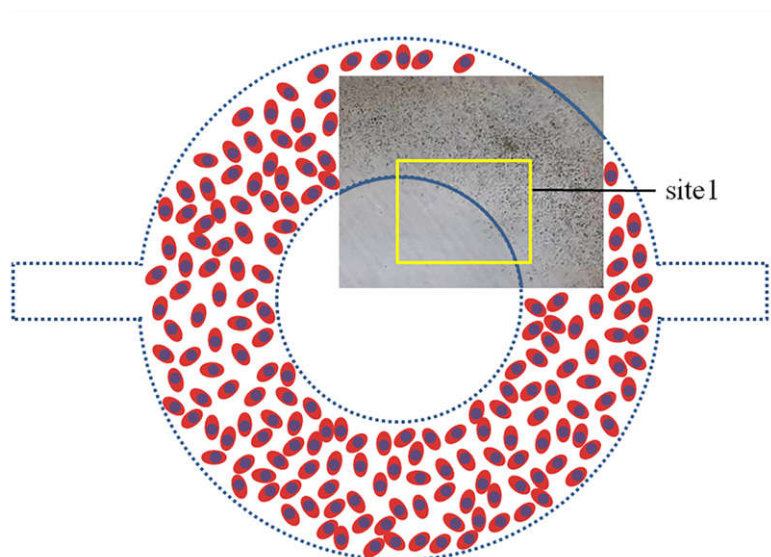
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13 Figure S1. Set up of the magnetic-based cell migration chip. (a) Silicon wafer. The wafer was treated with
14 trichloro (1H,1H,2H,2H-perfluorooctyl) silane to prevent PDMS adhering to the wafer. (b) PDMS chip. The radius
15 of the circle channel was 4mm and the height was 80 μ m. (c) Ring magnet adapter. Radius of the channel was
16 4mm, height was 1mm. (d) Magnet ring. Radius of the outer ring was, radius of the inner ring was 1.5mm, height
17 of the magnetic ring was 1mm. (e) Whole structure of the magnetic-based cell migration chip; (f) Chip with tube
18 of inlet and outlet which consist the whole microfluidic chip.

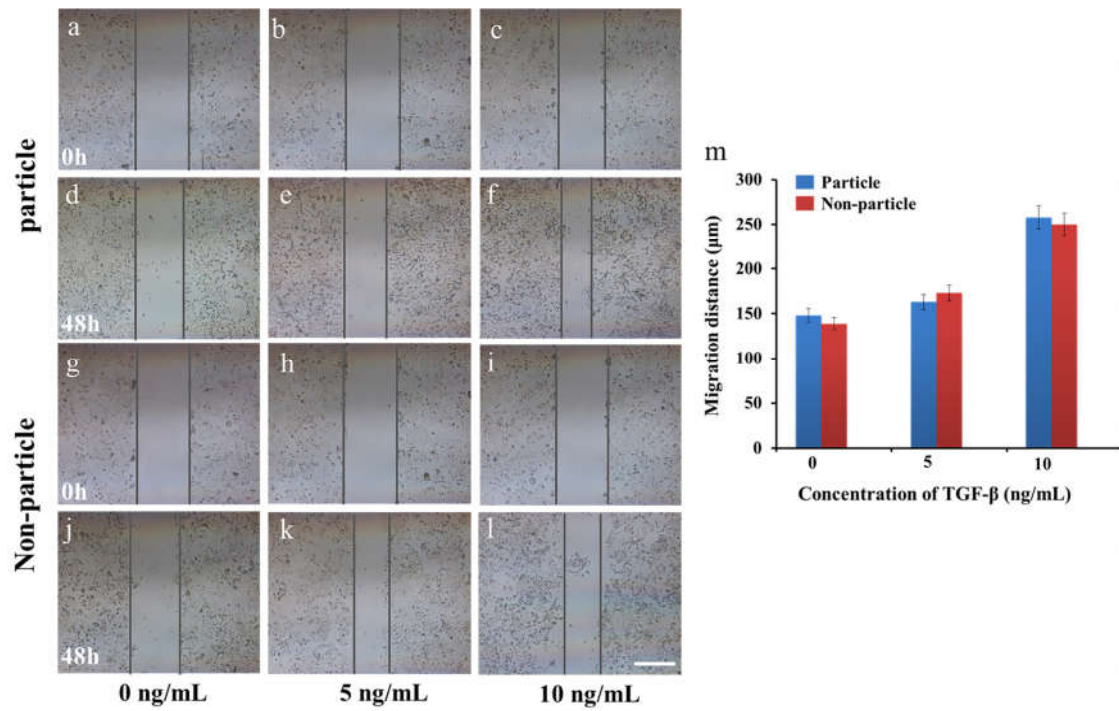
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21 Figure S2. Image of cells cultured with magnetic beads. (a) The objective magnification was 10×. (b) The
22 objective magnification was 20×. The scale bar is 100μm.

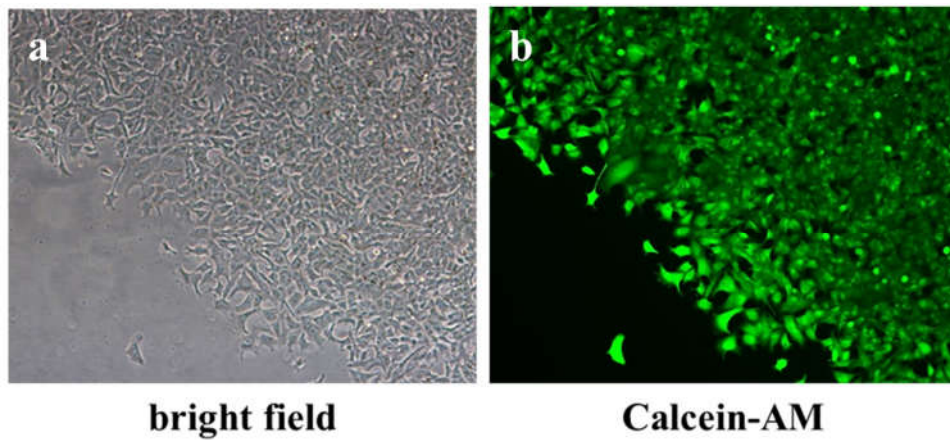


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24 Figure S3. Schematic of image capture. Blue dotted lines represent the circle edge; yellow solid line represents the
25 image capture location.



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27 Figure S4. Representative images of MCF-7 cell migration distance with and without magnetic beads. (a-f)
 28 MCF-7 cell with magnetic beads. (g-l) MCF-7 cell without magnetic beads. (m) The quantitative graph of
 29 migration distance under different concentration of TGF-β. Error bar represented the SD from three different
 30 experiments in three devices (n=3). P < 0.05. The scale bar in the picture represents 500μm.



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32 Figure S5. Calcein-AM staining image of MCF-7. (a) Bright field. (b) Calcein-AM (green).