

Acousto-optofluidic 3D Single Cell Imaging of Macrophage Phagocytosis of *Pseudomonas Aeruginosa*

Supplementary Information (SI)

Cynthia Richard ^{a,b}, Erick J. Vargas-Ordaz ^{a,b}, Yaqi Zhang ^{c,d}, Jian Li ^{c,d}, Victor J. Cadarso ^{b,c}, Adrian Neild ^a

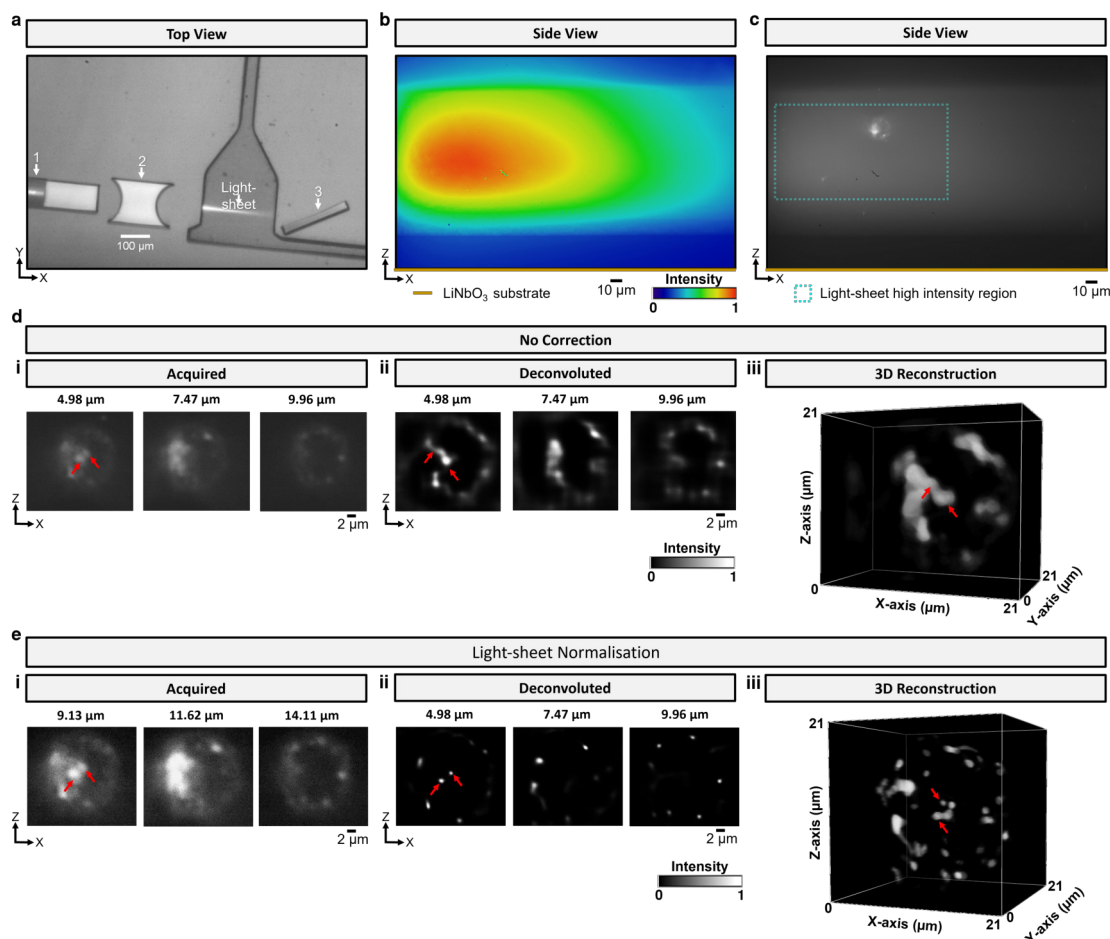


Fig. S1 Light-sheet normalisation. (a) Top view of light-sheet formation using a 488 nm laser and fluorescein. (b) Side view of the intensity profile of the formed light-sheet across the imaging channel. (c) Side view of a single macrophage cell within the light-sheet. Example of data processed for the same cell without light-sheet normalisation correction (d) and with the correction (e), where (i) shows the raw acquired images, (ii) are the deconvoluted images, and (iii) is the 3D reconstruction. Arrows point to internal bacteria of interest. The cell corresponds to the data analysed in Fig. 5 (d).

^a Laboratory for Micro Systems, Department of Mechanical and Aerospace Engineering, Monash University, Clayton, VIC 3800, Australia. Email: adrian.neild@monash.edu

^b Applied Micro- and Nanotechnology Laboratory, Department of Mechanical and Aerospace Engineering, Monash University, Clayton, VIC 3800, Australia. Email: victor.cadarso@monash.edu

^c Centre to Impact Antimicrobial Resistance, Monash University, Clayton 3800, VIC, Australia

^d Monash Biomedicine Discovery Institute, Monash University, Clayton 3800, VIC, Australia

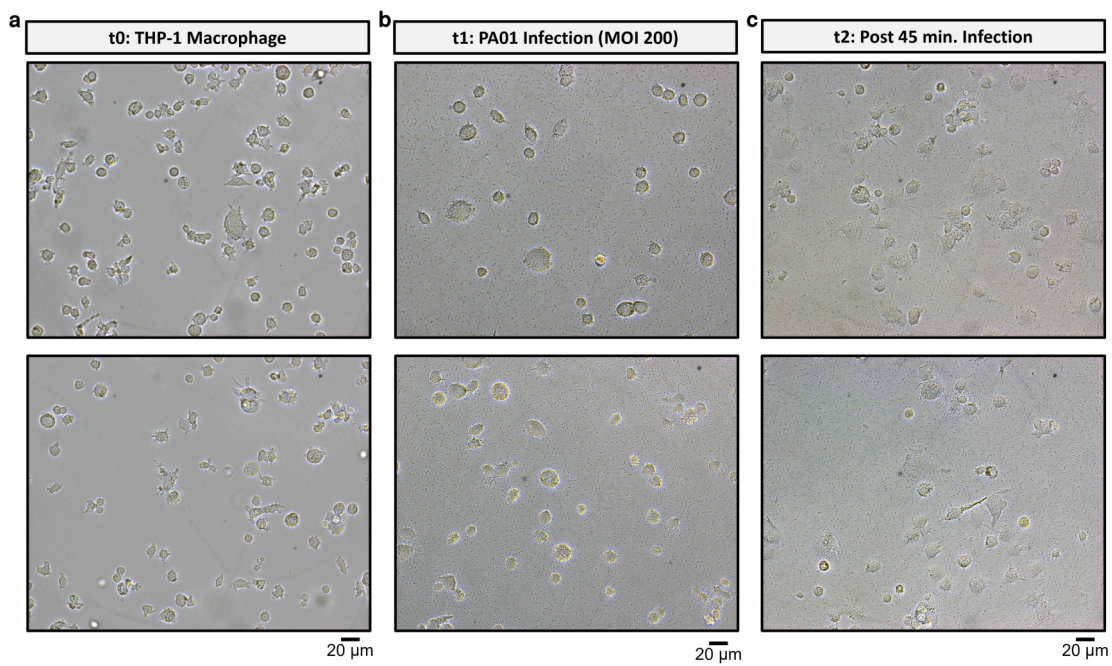


Fig. S2 THP-1 Macrophage bacteria infection in tissue culture prior to imaging experiments. (a) Attached macrophages prior to the introduction of *Pseudomonas Aeruginosa* (PA01), (b) at the moment of bacteria introduction, with an MOI of 200, and (c) after a 45 minute incubation period at 37 °C.