

## Supplemental Data

### **The intercell dynamics of T cells and dendritic cells in a lymph node-on-a-chip flow device**

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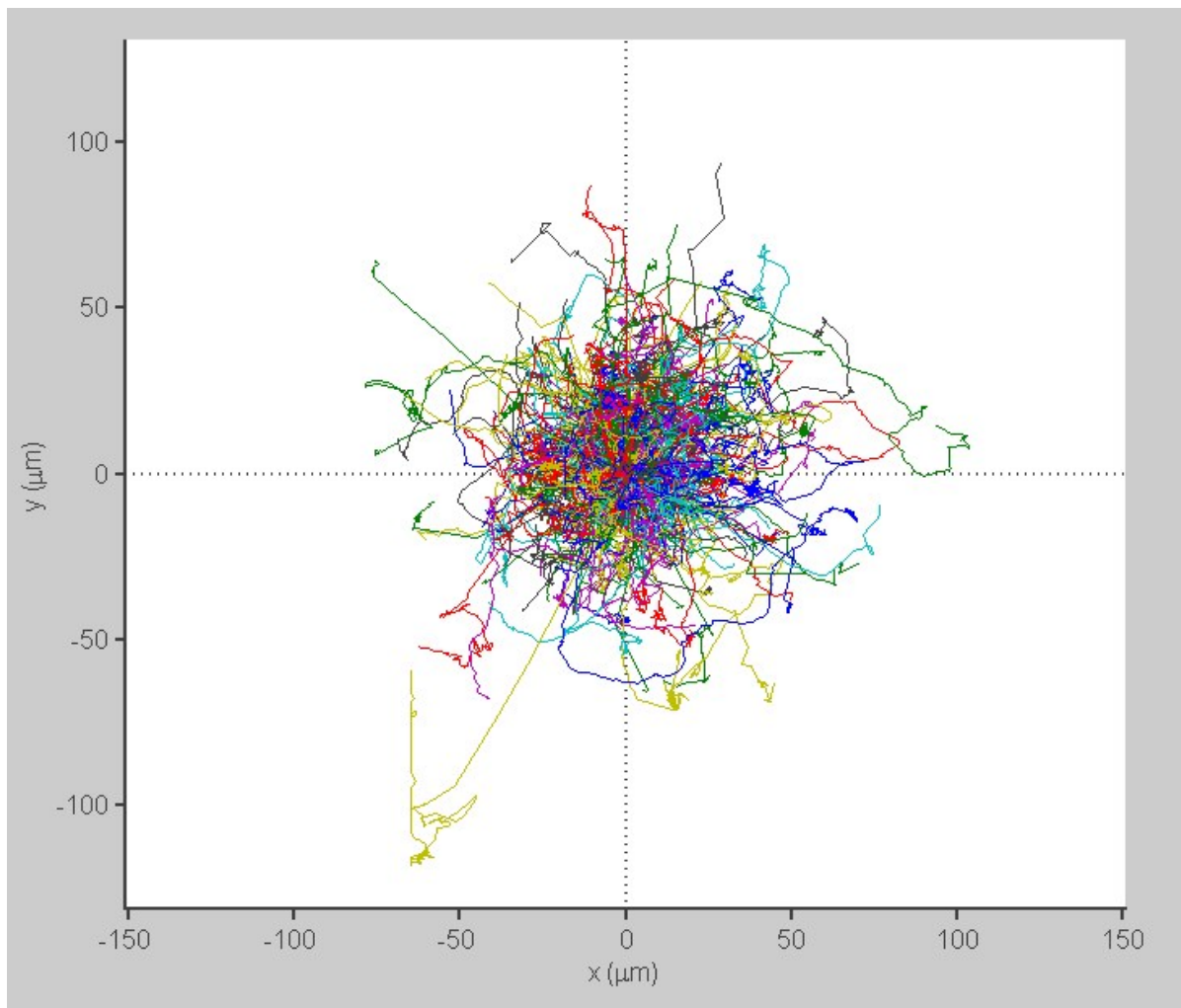
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**Movie S1|** 3D model of interactions T cells (red dots) and APC monolayer (green monolayer) using Imaris Track from a real 3D confocal imaging at  $0.01 \text{ Dyn.cm}^{-2}$ , 100 nL/min during initial 30 min of 2h with constant perfusion.

**Movie S2|** Time-lapse images of dynamic cognate interactions between T cells (red) with APCs (green) of continuum perfusion during 30 min by confocal microscopy.

**Movie S3|** Force detachment assay: applying high shear stress variations between  $\text{CD4}^+$  T cells with APCs (60x).

**Movie S4|** Attachment assay between  $\text{CD8}^+$  T cells with APCs applying low shear stress variation (40x).



**Figure S1|** Map of cell tracks of T-cells (n=422) at  $0.01 \text{ Dyn.cm}^{-2}$ ,  $100 \text{ nL/min}$  during initial 30 min of 2h with constant perfusion using ImarisTrack and Matlab software.